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3/H	12/12/96	(by Olaf Schnare, RST Rostock)	
			updated, changed order of performing installation steps
		App. C	added Installation Work Sheet
3/I	29/05/97		CGS 3.2 – WORKING
	24/06/97		CGS 4.0 updates:
4/–	07/11/97	All	completely revised for CGS V4
4/A	06/01/97	4.3.1.2	included checks for correct Ada environment
		4.2.1.3.2, 10.1.1	Installation of the Solaris Patch
		4.3.1.2, 4.3.1.3	eject CD–ROM before starting root.sh
		4.3.1.5	check Oracle processes because Oracle may already run
		4.4.3, 4.4.4	add a hint to check for known bugs and workarounds
			updates due to changed installation scripts
		6.6	add creation of final archive mount points (work around for SPR–4492)
		9.7.9	add import of saved TRDB contents
		10.1.1	Solaris installation: use custom disk layout
		10.1.2	use admintool for printer installation
		10.1.3	mount archiving directories of testnodes (SPR–4281)
		10.2, 10.5	update to changed deinstallation script, remove archiving directories (SPR–4281)
		10.4.1	add option if HP node does not support initial boot menu
		10.4.3	'install_cgsi' updates, mount TN_HOME also on every client (SPR–4281)
		10.5	update to changed deinstallation script remove archiving directories from all CGS clients (SPR–4281)
		10.6	new text for unix user addition priviledge CREATE SEQUENCE added
		11.3	dadima does not pop up a window, but stays in a shell window

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		12.3.2, 12.5	user should be logged in on the Oracle/CGS Server
		12.6.	update to new deinstallation script
		12.7	add deletion of remainingCGS users and groups
4/B	19/03/98	3.2.4 – 7	updated
		4.2.5	C compiler must be available, create startup script in /etc/init.d
		4.3.1.2	add hint, that Oracle uses first Ada compiler found in /etc/VADS (SPR–4771)
		4.3.1.7	Oracle patch 'varraw' installed from CGS CD
		4.4	updated to new version, use sh instead of csh
		4.4.1	add hint to check installation of req. patches
		4.4.4	sections renumbered
		4.4.4.1	establish automount map for mounts of TN_HOME (SPR–4281)
		5.1.5	cgsadmin need's no longer 'dba' permissions
		5.1.7	import UCL libraries by File–>Include (BDE seems to be too complicated for this 6 items to be imported)
		5.2.2	default of foreign key type is T_DEMO_FOREIGN_KEY
		6.5, 6.6	examples added, check also file dbs_config...
		6.7.2	file to create is named 'server_configuration', headline changed
		6.9	added to enable client processes on the CGS server
		6.10	renamed and updated
		9.2	use env. variable for backup directory
		9.2.1	Openwindows not required
		9.2.2	name of script is 'exp_dadi_v212_v300.sql'
		9.2.3	files added for backup
		9.2.4	start script 'exp_sid_range_tool_data'
		4.2.1.3.1, 10.1.2	add hint for correct setup of the CGS print server (SPR–4486)
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		10.6	allow remote access in .rhosts
		10.7	deleted section 10.7.1 –10.7.3, deinstallation of a user is performed by only one script now
		11.2.10	perform only 'Recreate CLS FIles' because CCU of test data is frozen
		11.4.4	added TEV simple check (Event logging)
		12.1.4	Added backup of TRDB contents
		12.7	remove CGS netgroup, add list of groups and users which may be removed
4/C	30/03/98	4.	sections combined and renumbered

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		4.3.2	changed dataviews startup
		4.4.2	CGS NIS Maps, moved definition of NIS maps to this point corrected mistake in the defintion within the file /etc/auto_master
		4.4.3	update of CGSI installation to actual script
		4.4.4.2	add example for a standard installation change description of CSS installation
		5.1.2, 4.3.1.7	moved printer definition from 5.1.2 to 4.3.1.7 (new)
		5.1.2	add hint for delivered MDB data types, sections renumbered
		5.1.3	add steps to create a new MDB owner
		5.1.6	add note for example database
		6.6	number of FA devices now only defined in file dbs_configuration_file.def hint: MO media must be owned by cgsadmin
		9.2.7, 9.7.3	add hint for delivered MDB data types, sections renumbered
		10.1	split 10.1.2, sections renumbered, text changes
		10.2	remove mount points, adapted to new script
		10.4	split 10.4.2 and 10.4.3, sections renumbered, text changes
		10.5	updated
		10.6	remove a double listed input line
		11	some steps adapted to actual CGS configuration
		12.3.3	update links within document
		12.6	updated
4/D	29/05/98	12.3.1	add hint for delivered MDB data types
	28/09/98	4.3.1.2	disabled oracle trace
	16/10/98	4.3.1	overwork oracle installation refer to Solaris 2.6
	07/01/99	4	new order of installation (Solaris,NIS,Oracle)
4/E	14/04/99	4.3	Change ORACLE_TERM to xsun5
		4.4.2.2	Reworded UserHomeDirectory to UserHomeParentDirectory
		6.4	Removed –test option (SPR–5913)
		6.7.1	Changed default NTP master to DB server (SPR–6532)
4/E	08/06/99	i6, 9, 10	remove start_vicos_defaults part
4/E	24/06/99	7	Change install and use CGS libraries
4/E	20/09/99	5	install_mdb (add dadi export directory)
4/E	08/10/99	4.3.1.9.1	insert ”Ask your oracle distributor for patch availability.”
4/E	08/10/99	6.3	insert new outputs of install_trdb
		12.3.4	insert new outputs of deinstall_trdb
4/E	15/10/99	4.3.2	insert DVpatch052
	07/01/99	4	new order of installation (Solaris,NIS,Oracle)
4/E	29/11/99	all	insert remarks from COL–EGS–LET–055–ABT/ COL–EGS–REP–046–ABT
4/F	17/12/99	9	overwork section 9
	22/12/99	9	overwork chapter 9 (update) for update 4.2 –> 4.3
	12/01/00	4.4	remove CMAS product for installation (chapter 4.4) refer Technical Note COL–RIBRE–TN–1318 1/0 for FORCE installation

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24/02/00	4	insert section 4.3.1.6.1 to solve SPR–6881
28/02/2000	2	Add reference for force installation in section 2 (Applic. & Ref. Documents). Provide full document Tilel in section 10.3. Update installation manual according findings from last CGS installation

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1 INTRODUCTION

1.1 Identification and Scope

This document deals with the installation of the software subsystem Columbus Ground System – version 4.3 (CGS V4.3), end–user delivery configuration.

1.2 Purpose

CGS V4.3 shall be installed or updated from former releases according to the installation procedure contained in this document. It also contains a short description of the installation of the operating systems and needed commercial products.

In this issue of the installation document only one path of the possible installations according to different CGS platforms and different hardware architectures is described. Even this restriction will make several cases of installation procedures necessary. This will be mentioned in the appropriate parts of the document. But most of the times the most probable path through the installation for an average end user system has been selected. Please refer to the corresponding release notes for deviations from the installation procedure.

The next section of this chapter will describe some conventions which will be used during the course of the installation procedure. Chapter 2 will point to all necessary documentation which shall be consulted to perform a correct installation procedure. Chapter 3 gives an overview about the configuration and the installation process. Please read Chapter 3 before starting the installation **carefully** because it gives a lot of hints and tips about the job, which are valuable to know in advance. Thereafter in chapters 4 to 8 the installation procedure follows which should be performed in sequence.

Chapter 9 describes an update procedure, if an older CGS version already exists, and the old data shall be used in CGS V4.3. In this case the chapters 4 to 8 shall be skipped, and the installation shall be performed in the sequence as described in chapter 9.

Chapter 10 gives an overview about administration utilities (e.g. install workstations, install users). In chapter 11 you find an installation test procedure. Chapter 12 contains the description of the CGS V4.3 deinstallation.

Appendix C contains a set of Installation Work Sheets which allow a better planning of the CGS installation and to improve the maintenance of the system. The Installation Work Sheets should be filled before starting the installation.

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1.3 Procedure Conventions

This section describes how to install the software into its operating environment, including the detailed manual steps to be followed. The installation script will maintain the following conventions:

Every machine interaction will be shown as an indented paragraph with extra space above and below, as depicted in the following paragraph. Machine prompts and messages will be kept in plain courier font:

```
Machine prompt>
```

Inputs of the user will be in bold courier font:

```
Machine prompt>User's input<Return>
```

Generic entries, which have to be filled out or replaced by the user, will be in bold italic courier font:

```
disk description
```

Comments within the machine interaction boxes, that will not be present on the screen, will be in italic courier font:

```
                ( Lots of output here )
```

If there is a lot of irrelevent or unimportant output between two user commands, such text is not included here but rather it is replaced by dots in a column, occasionally with a comment about how long the user can expect to wait or a description of which apparent ”errors” can be ignored.

```
.               ( 30 minutes )
```

Always before the user has to interact with the system, all actions to be performed will be described in detail in the section before the machine interaction. If there are actions which have to be performed only in certain circumstances, the text will be kept in a slight grey:

```
Machine prompt> User's input<Return>
```

Within some programmes, two different kinds of user input are used:

- *enter*
  The keyboard input has to be finished with the **<Return>**–key.

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- *type*
  The keyboard input (a single keystroke) is processed as soon as you type a character.

Single keys with a special meaning are surrounded by the up– and down–sign (< and >, respectively). Special keys which have to be pressed simultaneously will be included in one pair of up– and down–signs concatenated with a hyphen. Simultaneously means, that the keys have to be pressed in the sequence they appear from left to right, but that every key has to be kept down during the complete operation. Special keys which have to be pressed in a sequence will be included in a couple of up– and down–signs each and then be concatenated by hyphens externally. Sequentially means the key has to be pushed down and then released before the next key is pushed down. Examples:

Keys with a special meaning:
<Return>
<Tab>

Keys to be pressed simultaneously
<Shift–Return>
<Control–Backspace>

Keys to be pressed sequentially
<Escape>–<a>
<Pause>–<o>–<”>

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2 APPLICABLE AND REFERENCE DOCUMENTS

2.1 Applicable Documents

The following documents of the issue shown form a part of this document to the extend specified herein. In case of conflict this document supersedes the installation manuals mentioned herein.

2.1.1 Sparc:Installing Solaris Software
Solaris 2.6
Sun Microsystems Inc. 1995

2.1.2 ORACLE7 Installation Guide for Sun SPARC Solaris 2.x
Release 7.3.4
July 1996
Part No. A42912–6

2.1.3 Oracle Network Manager Administrator's Guide
Release 3.0
Part No. A21644–3

2.1.4 HP LaserROM
HPUX Release 10.*
Februar 1996 Part–No. B1671–10011
Hewlett Packard

2.1.5 DataViews Installation and System Administration Manual
DataViews 9.7
July 1995
Document Number 820–00048–00
Document Revision C

2.1.6 CGS User Manual
COL–RIBRE–MA–0028
Issue 2/K, 31.03.2000

2.1.7 DADI–MA Administration Manual
COL–RIBRE–MA–0036–00
Issue 4/– of 01.09.1997

2.1.8 SID Range Tool Users and Operations Manual
COL–RIBRE–MA–0046
Issue 1/–, 15.09.1997

2.1.9 MDA Administration Manual
COL–RIBRE–MA–0018–00
Issue 4/B 31.03.2000

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2.2 Reference Documents

The documents specified in this section serve as reference material.

2.2.1 FORCE VME Drive vmeplus V2.03 CGS CMAS Patch
COL–RIBRE–TN–1318
Issue 1/0, 01.09.1997

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3 CONFIGURATION OVERVIEW

This section first outlines some *general considerations* relating to the installation of the Operating System on Sun platforms. Some degree of *common sense* must be applied in order to tailor the procedure according to the disk capacity of the server and to the nature of the CGS configuration in which it is located.

The product requiring the most effort to install is the Operating System Services product [Solaris / HP–UX]. The installation procedure offers a large number of options with regard to the physical organization of the local disk, the particular software units which are to be installed and so forth.

With a multi–server environment, Solaris/HP–UX must be installed on all servers, and users' work areas will be distributed amongst the available total disk space. Careful consideration must be given to the geographical distribution of both software and user homes *prior* to installation taking place.

Note: *If the number and sizes of partitions on a disk have been incorrectly defined, then the effort required to repartition the disk and correct the problem will be quite large.*

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3.1 The CGS Server/Client Configuration

No detailed guidance is given here as to how to plan or set up the hardware configuration at a CGS site. This configuration (the distribution of server and client machines on a local network) is a highly individual, site–specific concern.

However, any of the following configurations may appear on a CGS site:

- *a single standalone machine*
  - All installation steps are performed on this machine
  - The machine is actually configured as a *server*, but with no *clients*
- *a single server and multiple clients*
  - Most of the installation steps are performed on the *server* while only a few steps have to be performed on each *client*
  - All CGSI software is installed on the *server*, but not visible/installed on clients
  - For the clients, which are configured as standalone workstations but nevertheless connected as clients to the NIS and NFS, it has to be decided, which partitions have to be mounted from the server, and which parts of the software have to be installed locally on the internal disk (mostly the operating system).
- *multiple servers*
  - This is a more complex environment, requiring careful planning. The actual distribution of Operating System software, CGS software and user homes amongst the available *servers* should be given careful consideration: ***mistakes will be difficult to rectify at a later date !***
  - Because the actual server/client configuration is very site specific, it is difficult to provide detailed guidelines as to how to achieve an optimum distribution. Nevertheless a few hints may be given here:
    - Distribute the Operating System Services on all *servers*

- Database Services will be installed on at least one *server*, but optionally on more than one *server*, depending on site–specific requirements
- The CGS software needs to be installed on only one server
  - Each machine in the network has the same logical filesystem by virtue of the `mount/automount` mechanism – thus assembly software installed on one *server* is automatically available to all *clients* of that *server*
  - As a consequence of this, the installation step concerned with creating CGS assembly homes in the filesystem need only be performed on the *server* designated to act as the CGS assembly file server
  - On sites where one CGS assembly is used very frequently it *might* be useful to install that assembly on more than one server, in order to reduce network traffic and load
- All machines (*servers* and *clients*) must reside in a **single NIS domain** (refer to sect. 3.2.6)

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3.2 Preparation for Installation

3.2.1 Existing Operating System

If an operating system is already installed on any *disk server* in the CGS configuration, make a full back-up of all filesystems containing:

- user or application data
- installed software which is not part of CGS

so that you are able to restore the data after finishing CGSI installation in case some data got corrupt during the installation.

3.2.2 Selection of Operating System Software

The Solaris software consists of a number of required and optional software packages. Besides the required packages, several of the optional packages are necessary for the operation of CGS.

If it is desired to install additional software packages, then the appropriate extra disk space will have to be provided – i.e. ***the disk partitioning will have to be modified accordingly***.

3.2.3 Configuration Map

Before the installation process can begin, the CGS System Administrator should define the *CGS configuration* that is to be established. This is necessary because the actual installation steps performed on a particular host will depend on the host type (server or client), and, if server, which roles that server is expected to fulfil. In particular, the CGSI installation script requires precise information on host type and server roles.

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Defining a CGS configuration involves generating a *configuration map* (see the Installation Work Sheet C.1.4) which maps host type and server roles onto the hosts present in the local configuration. The table below shows an example of a typical configuration map.

Service	**Host Name**	**IP Address**	**Remark**
Mail Server	cgs–s	149.243.228.1	
Print Server	cgs–s		Printer: cgs_p
	%	%	
Boot Server (to boot diskless clients or front end equipment)	cgs–s		to boot front end processors
	%	%	
NIS (Master)	cgs–dbs	149.243.228.10	
(Slaves)	cgs–s		
Oracle Server	cgs–dbs		exports Oracle S/W
File Servers (CGS, User directories, ...)	cgs–dbs		exports GSAF_HOME USER_HOME
	%	%	

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The following should be noted:

- any server *is automatically a* disk server
- one of the disk servers *must* be *a* NIS master server, other can be a NIS slave server
- a disk server may optionally be *a* mail server
- a disk server may optionally be an Oracle server
- a client should not fulfil any kind of server role

Important: Please use the **Installation Work Sheet** (appendix C) to plan your CGS installation. The data asked for is needed for a correct setup of your CGS system and will later support you during system maintainance. Most of the entries are referenced within the installation procedure. Some CGS related data must be filled in during the CGS installation.

3.2.4 Disk and Filesystems

Disk partitioning and organization will depend on the number of disks supplied with the server on which CGS is to be installed: normally one or two disks will be available. The CGS software should be installed into one disk partition, which is specified as the partition used for ”GSAF_HOME”.

If more than one partition shall be used for the CGS system, the following is recommended:

1. Assign the users home directories to a separate partition. They should not be located below GSAF_HOME.

2. Assign the Oracle installation and other commercial products to a separate partition. The Oracle installation should not be located within the GSAF_HOME directory
3. Use one or more partitions for the Oracle datafiles. The partitions should be located at different hard disk for higher performance and security.
4. Assign the Atherton Database to a separate partition (SDE specific)

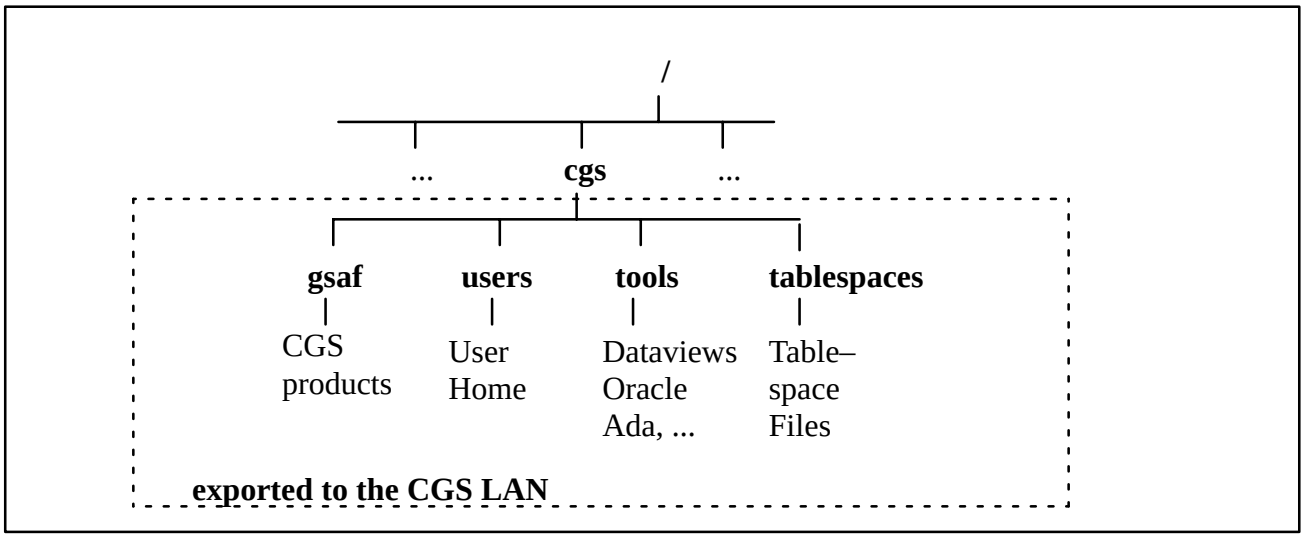

Figure 1. Example: CGS installed in one filesystem

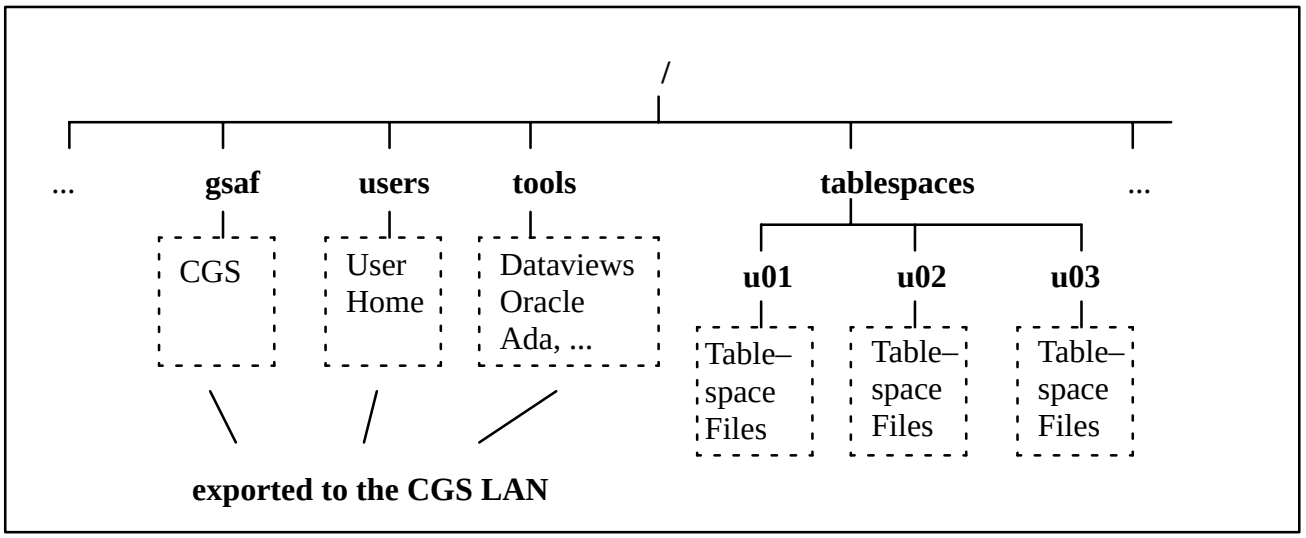

Figure 2. Example: CGS distributed over different filesystems/hard disks , oracle tablespaces distributed over different hard disks

The CGS installation scripts will automatically export and mount the directories containing the CGS software (GSAF_HOME), the user home directory and the directory containing the Oracle installation ('tools'). Any other directories must be exported and mounted manually. It is not necessary, to mount partitions on the CGS clients, which contain only Oracle Data files.

Important: The user home directories and the CGS directory ($GSAF_HOME) will grow during operation. Especially the 'data' directories of the products 'cgs', 'mda', 'dbs' and 'tev' are

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used to store temporary or permanent data files. This must be considered when planning the size of CGS partitions. (refer to the CGS Installation Checklist)

If a CGS configuration comprises more than one disk server, partitions for the assembly homes need to be created only on one server, which will then act as file server for the entire configuration.

3.2.5 Logical Directory Structure

In any kind of server/client configuration [section 3.1], all disk partitions are physically located on the server and logically mounted onto the client workstations. All CGS hosts must have the same logical filesystem structure. The CGS installation scripts assume, that the CGS home directory is just the one mount point `$GSAF_HOME` below which all the CGS assembly homes reside in individual directories (`cgsi, css, mda, sde` etc.). It also detects the mount point of the Oracle installation and of one user directory mount point.

User home directories and directories containing commercial products (e.g. Oracle) should not be located below the GSAF_HOME directory.

Important: All clients in a CGS configuration must have the **same logical file system**.

3.2.6 Network Information Service Convention

The use of NIS is mandatory. Each CGS configuration will have one server acting as the NIS master server. It is recommended for large networks to introduce NIS slave servers which maintain copies of the NIS databases.

The following databases must be established on the master server:

- UNIX user information (`passwd`)
- UNIX group information (`group`)
- Host identifications (`hosts`)
- Ethernet identifications (`ethers`) for diskless clients
- a `netgroup` definition is recommended to establish an effective access control
- an additional automounter map is established to distribute mount definitions within CGS

Important: For security reasons the NIS master files should be separated from the local user administration of the NIS master server. Section NO TAG describes how to create separate NIS data files.
But note: The standard administration tools of Solaris 2.5 can't work with separated NIS master files. If you want to create Users outside of CGS, you have to edit these files manually or you need to install network administration tools (e.g. Solstice).

Within the `hosts` database the following host aliases should be defined:

alias	host type
lwhost	printer server – has a local postscript printer attached (lw = laserwriter)
mailhost	UNIX mail server alias– used by the Unix mail system to communicate with machines in external mail domains (optional)

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These aliases will be applied respectively to the actual host names of the servers within the CGS configuration.

3.2.7 Mail Routing Convention

The UNIX mail facility should be set up to allow users to communicate locally and, perhaps in addition, over a WAN. Between the hosts constituting a CGS configuration, mail routing is accomplished by mounting the `/var/mail` directory from the mail host onto all other hosts. The CGS installation scripts can setup the mail system of a client by mounting the mail directory. The correct environment of a mail hosts must be setup manually by the local system administration.

3.2.8 User Accounts

User home directories can in principal be placed anywhere. In case many users are expected for the CGS site, it is recommended that one or more disk partitions be created solely for user data. These should not be mounted below the GSAF_HOME directory but in parallel (see example below). Users working on the same project, workpackage etc. are best assigned to the same partition.

The directory for the first user home directory will be created by the CGSI installation script. Further directories may be created at any future time by the system administrator.

3.2.9 Printer Installation

CGS uses 3 environment variables to define the 3 printer names to be used by CGS. So every CGS workstation has to provide the **same** logical printer names.

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3.3 Summary

The installation process involves the following steps:

1. Installation of Solaris at the CGS server
   - assignment of host information
   - assignment of disk information (for each disk present)
   - assignment of software information
   - installation of Solaris
2. Boot of the server
3. Installation of the NIS (*Yellow Pages*) service
4. Oracle 7 installation
5. DataViews installation
6. CGS Delivery installation
7. Installation of the Master Test Processor
8. Installation of clients and further Test Nodes/Simulation Nodes

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4 INSTALLATION PROCEDURE

The administrator who installs CGS is expected to have basic knowledge of UNIX and UNIX administration. As far as the software is installed from scratch, there cannot be done any harm to the system in case of an error, besides of the loss of time. If you would like to modify an existing system already set up, be sure to have a most recent complete backup of your system, because acting as root may cause damage of the installed system in case of an error, even if taking the most rigid precaution.

Please check the preconditions given in the CGS Installation Checklist before installing the CGS delivery.

Note: You need an HP only if your delivery contains the test facility. Force computers are only used by the simulation facility:

The CGS delivery comprises a CD–ROM with a mountable file system. All other software is either already installed on the receiving site or has to be provided by the customer.

4.1 Solaris Installation (CGS Server)

4.1.1 Preliminary Information

The figures to be used for the partition and the information to be entered during the installation are examples. They should be adapted to local needs. For this planning the Installation Worksheets from the Solaris installation manual [AD 2.1.1] shall be used before starting the installation. Additional you should fill out the CGS Installation Work Sheets (Appendix C) which will contain the most important information about the CGS installation as there are network configuration, location and configuration of software products and user information.

Think about the partitioning in advance. CGS has the following minimum requirements:

Root area and operating system: 600 MByte
SWAP: 300 MByte
CGS: 1.6 GByte
User and Data area: depending on your test environment

(Please refer to the CGS Installation Checklist for minimum values of the system partitions)

In the following section it will be described how to boot and install Solaris from CD–ROM. Further software packages can be installed from the other CD–ROMs delivered in the Solaris package (as shown later with the NIS installation).

4.1.2 Shutdown an old Operating System

If an old operating system is just running, login as user `root` and stop the machine:

```
Login: root <Return>
Password: RootPassword <Return>

# halt <Return>
```

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After the halt command, the ”>” prompt will appear. If you have an PROM version of at least 2.0 type **n<Return>**. Now you will see the ”ok” prompt which allows more literal commands.

4.1.3 Installation of the Basic Operating System from CD–ROM

Power on the workstation. After some time the PROM monitor prompt ”ok” will appear. If your system starts to boot an old operating system which shall be overwritten, stop the boot process with the keys <Stop – A>

Then insert the Solaris CD into the CD–Rom drive. On the ”ok” prompt enter:

```
ok boot cdrom <Return>
```

The system will boot Solaris from the CD–ROM. If you have an graphic workstation, the installation program is started with the OpenWindows environment. On an ASCII terminal the installation program starts in ASCII mode.

The installation program will lead you through the installation process, so please read all outputs carefully and answer along to the following table or according to your local needs, then press ’OK’ or ’Continue’ button (OpenWindows environment) or press <ESC–2> at the ASCII terminal. After some inputs a confirmation screen will appear. Here you must confirm given inputs or go back and repeat the last steps:

Step	Installation Step	Action
1	*only on a ASCII console:* Choose terminal type	select your terminal type (e.g. **DEC VT100**)
2	Identify this System	
2.1	*only with international Solaris version:* What is your locale ?	select ’**UK–English (ISO 8859–1)**’
2.2	Host Name	enter the hostname of your server (see CGS server list C.1.4)
2.3	Networked	select ’**Yes**’
2.3.1	*if more than one network interface is available:* Network Interface	select the network interface connected to the CGS LAN (mostly ’**le0**’ or **’hm0’**)
2.3.2	IP Address	enter the IP address of the server (see CGS server list C.1.4)
2.3.3	Confirm Information	
2.4	Name Service	select ’**None**’ *(The NIS service must be installed from another CD–ROM)*
2.4.1	Confirm Information	
2.5	System part of a Subnet ?	select ’**Yes**’

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Step	Installation Step	Action
2.5.1	Netmask	enter the network mask of the CGS LAN (mostly '**255.255.255.0**' – see subnet mask C.1.1)
2.5.2	Time Zone	*(on a X–Window screen)* select '**Geographic region**'
2.5.3	Geographic region	select your geographic region and time-zone and continue
2.5.4	Date and Time	Check time and change it if needed
2.5.5	Confirm Information	
2.6	System identification completed	
3	Starting Solaris Installation Software	
3.1	*if there is a upgradeable system on the disk:* Upgrade System ?	select **complete** or **initial installation**
3.2	System Type	select '**Standalone**' or without '**client space**'
3.3	Languages	– select additional needed language support, then press 'Add' button – repeat this for all needed languages
3.4	Software	select '**Developer System Support**'
3.5	Disks	– select your Solaris boot disk (e.g. 'c0t3d0') – repeat this for other disks – continue
3.5.1	*if a selected disk contains already data:* Preserve Data	select continue
3.5.2	Automatically Layout Filesystems ?	use **auto–layout**
3.5.3	Auto–layout File Systems (a list of standard filesystems is given, some filesystems already marked)	select filesystems which shall be created, e.g: **/** **swap** **/var** then continue
3.5.4	File System and Disk Layout (default size of each selected filesystem is shown, all remaining storage – the free hog partition is assigned to /export/ home)	select **Customize Layout**

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Step	Installation Step	Action
3.5.5	Customize <first selected disk>	change size and names (of non system filesystems) to your needs, e.g. for a 2 GB disk: / => 650 MByte swap => 300 MByte /var => 150 MByte /export => 927 MByte *(Please refer to the CGS Installation Checklist for minimum values of the system partitions)* Continue if definitions are correct
3.5.6	last step is repeated for every disk selected in step 3.5	example for a second 2 GB disk: /cgs => 1000 MB /tablespaces => 1000 MB
3.5.7	Mount Remote Filesystems	Do **not** mount remote filesystems.
3.6	Profile – Confirmation screen	compare all installation option then select '**Install**' with the option '**Automatic Reboot**'
3.6.1	A warning may appear here if the disk space is not used completely	
3.7	The System Installation is performed	
4	The system reboots*****	Enter the new Rootpassword

*****If there are problems during boot, try following:
setenv boot-device disk
boot

After Automatic Reboot you will be ask for Solaris power save feature.

Important: Do not use the power save feature!
Type **n** for **not** using of power save.
Type **y** for no asking again for power save.

Login as `root` on the CGS server. If your CGS server shall be able to communicate to hosts outside of the local LAN segment create the file `/etc/defaultrouter.` This file must contain the name or the IP address of the router to the outer network (see appendix C.1.3.). Please add the IP address and the name of the router and all other hosts, which shall be reachable by the CGS environment, to the host database `/etc/hosts`:

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```
Login: root <Return>
Password: RootPassword <Return>

# echo Your_Default_Router > /etc/defaultrouter <Return>

# vi /etc/hosts <Return>
.           ( add IP address and name of the router at the end of the file
              add IP address and name of the NIS server if not in list:
.
      IP_Address  Host_Name

:wq <Return>
```

Then configure the printer(s). This is necessary if your CGS server is also used as a CGS workstation. CGS needs at least one printer available via the network. So this example shows how to configure a remote printer as the default printer. This task can be done by the Solaris `admintool`. If you use a non-graphic screen, work remote from a graphic screen (comment out the CONSOLE parameter in /etc/default/login to work remote before and set correct DISPLAY).

Note: All CGS hosts must use the same printer names because this names are referenced by CGS at every workstation.
To cover CGS print requirements the printer server used for the CGS environment must be setup to print a banner page for each print job! Please ask your system administration to setup the print server as required.

```
# admintool <Return>

  ... Admintool comes up

Select Browse –> Printers
Select Edit –> Add –> Access to printer
Enter Printer Name, Print Server, Description
Select Apply

repeat steps before to reference more remote printers, select one of them
as DefaultPrinter only

Select OK

Select File –> Exit
```

4.1.4 Solaris Patch

For the correct execution of CGS with Solaris 2.6 the recommended Solaris patches must be installed. Copy the patch delivery to your hard disk and follow the installation instruction of the patch description. Ask your SUN distributor for patch availability.

To check the installation of this patch execute:

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```
# showrev -p
Patch:
Patch: xxxxxx-xx Obsoletes:  Requires:  Incompatibles:  Packages: SUNWkvm
...
```

4.1.5 Change system configuration

Login as `root`. You have to add the following settings in the file `/etc/system` in order to configure the kernel parameters for shared memory:

```
# vi /etc/system <Return>
.
      (add the following settings at the end of the file:)

set shmsys:shminfo_shmmax=131072000
set shmsys:shminfo_shmmin=1
set shmsys:shminfo_shmmni=200
set shmsys:shminfo_shmseg=200
set semsys:seminfo_semmap=250
set semsys:seminfo_semmni=500
set semsys:seminfo_semmns=500
set semsys:seminfo_semmsl=500
set semsys:seminfo_semmnu=500
set semsys:seminfo_semume=100

                ( Save and Exit vi )
:wq <Return>
# touch /reconfigure <Return>
```

Note: The value **shmsys:shminfo_shmmax** shall be your RAM/2.
Our default is calculate to minimum RAM for CGS oracle server = 256 MByte.
Your RAM you can check via command $OPENWIN_HOME/bin/wsinfo on a graphic workstation.

This changes are inactive until the system is rebooted.

4.1.6 NIS installation

4.1.6.1 NIS Service Installation

After the installation of the operating system you have to install the Naming Services Transition Kit which contains the NIS server binaries, scripts and manual pages of the Solaris 2.x NIS services. It is delivered on your server CD–ROM.

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Note: This steps has to be done at the NIS master**.** Within one domain there must exist only **one** NIS master server

To install the Naming Services Transition Kit you must be logged in as user `root`. Then insert the CD–ROM into your CD–ROM drive. It is mounted automatically to the directory `/cdrom` by the volume management daemon. Then you can change to the source directory. Install the software by the command 'pkgadd'.

```
login: root <Return>
password: RootPassword <Return>

# cd /cdrom/cdrom0/s0/Solaris_2.6/Product <Return>

# ls <Return>                          (check contents of directory)
...
SUNWypr SUNWypu
...

# pkgadd –d . SUNWypr SUNWypu <Return>
                        (installation proceeds)
      Installation of <SUNWypr> was successful.
                        (installation proceeds)
      Installation of <SUNWypu> was successful.
#
```

Make sure that the path variable contains the directory `/usr/ccs/bin.` In order to make vi work in your environment you have to set the `TERM` variable to the right value. If your server has a Sun console, use 'sun' or 'sun–cmd', respectively. If you have a VT100 or VT220, use the corresponding value, vt100 or vt220.

```
# TERM=sun–cmd;export TERM <Return>
# echo $PATH <Return>
.           ( if the output contains not '/usr/ccs/bin' then
              add this path                                  )

# PATH=$PATH:/usr/ccs/bin <Return>
# export PATH <Return>

# vi Your_Root_Home/.profile <Return>
            ( add following lines at the end of the file:
              PATH=$PATH:/usr/ccs/bin:/usr/openwin/bin
              export PATH                                    )
```

4.1.6.2 Initialization of the NIS Master

The NIS software in the default configuration provides the information from the `/etc` files to the network. This can cause problems in the system security because user data of local administration users on the NIS master server are exported to the network. So it is recommended to use a separate directory (e.g. `/var/etc – in following called` *`Your_NIS_PW_Directory`*) which contains at least the

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user data files provided to the network.. Please follow the following steps to create separate NIS master files.

Important: CGS recommend to separate NIS master files in the directory /var/etc !

Important: The administration software of Solaris (e.g. `admintool`, `adduser`, `addgroup`, ...) can only work at the original files in `/etc`. Separate NIS master files as used here must be edited manually or additional administration tools have to be installed (e.g. Solstice).

At first, copy your present configuration files to a newly created directory (recommended is `/var/etc`), which will be the NIS map directory on the master server. Please refer to the Installation Work Sheet C.2.2. First copy files to modify:

```
# mkdir –p Your_NIS_PW_Directory <Return>
# cd /etc <Return>
# cp –i passwd shadow group hosts auto_master auto_home Your_NIS_PW_Direc-
tory <Return>
```

With vi assure that the files `/etc/passwd` and `/etc/shadow` contain only local needed user entries. Normally it should be the default contents delivered by the Solaris distribution. If the Solaris installation was just performed, you already have everything as it should be in the /etc database files.

```
# vi /etc/passwd <Return>
root:x:0:1:Super–User:/:/sbin/sh
daemon:x:1:1::/:
bin:x:2:2::/usr/bin:
sys:x:3:3::/:
adm:x:4:4:Admin:/var/adm:
lp:x:71:8:Line Printer Admin:/usr/spool/lp:
smtp:x:0:0:Mail Daemon User:/:
uucp:x:5:5:uucp Admin:/usr/lib/uucp:
nuucp:x:9:9:uucp Admin:/var/spool/uucppublic:/usr/lib/uucp/uucico
listen:x:37:4:Network Admin:/usr/net/nls:
nobody:x:60001:60001:Nobody:/:
noaccess:x:60002:60002:No Access User:/:
nobody4:x:65534:65534:SUNOS 4.X Nobody:/:
:wq! <Return>
```

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```
# vi /etc/shadow <Return>
root:GIYMTK21EFH8Y:6445::::::
daemon:NP:6445::::::
bin:NP:6445::::::
sys:NP:6445::::::
adm:NP:6445::::::
lp:NP:6445::::::
smtp:NP:6445::::::
uucp:NP:6445::::::
nuucp:NP:6445::::::
listen:*LK*:::::::
nobody:NP:6445::::::
noaccess:NP:6445::::::
nobody4:NP:6445::::::
:wq! <Return>
```

Delete all entries in the files *Your_NIS_PW_Directory*/passwd and *Your_NIS_PW_Directory*/shadow which are already contained in /etc/passwd and which should not be visible on the network:

```
# vi Your_NIS_PW_Directory/passwd <Return>
      (delete all UID between 0 and 100 and all between 60000 and 65565)
.
:wq <Return>
```

```
# vi Your_NIS_PW_Directory/group <Return>
      (delete all UID between 0 and 100 and all between 60000 and 65565)
.
:wq <Return>
```

```
# vi Your_NIS_PW_Directory/shadow <Return>
      (delete all UID between 0 and 100 and all between 60000 and 65565)
.
:wq! <Return>
```

Change your NIS hosts file. Delete the line, contains the string "loghost" and insert the line 127.0.0.1 loghost localhost:

```
# vi Your_NIS_PW_Directory/hosts <Return>
      (delete "loghost" string,insert one line as:
       127.0.0.1 loghost localhost)
:wq! <Return>
```

Check the auto_master and the auto_home files and change if it needed:

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```
# vi Your_NIS_PW_Directory/auto_master <Return>
      (only ONE "/-" entry allowed per file is allowed
       no "+" lines are allowed)
:wq <Return>

# vi Your_NIS_PW_Directory/auto_home
      (only ONE "/-" entry allowed per file is allowed
       no "+" lines are allowed)
:wq <Return>
```

Now copy this files to *Your_NIS_PW_Directory*, therefor no modification are needed. Create different empty files and create soft links:

```
# cd /etc
# cp –i networks netmasks rpc services protocols aliases publickey
Your_NIS_PW_Directory <Return>
# cd Your_NIS_PW_Directory <Return>
# touch netgroup ethers bootparams <Return>
# ln –s /etc/default/init Your_NIS_PW_Directory/timezone <Return>
```

After this actions change the directory information for the NIS administration files from `/etc` to *Your_NIS_PW_Directory.* Therefore change the variables `DIR` and `PWDIR` in the file `/var/yp/Makefile` to the new NIS directory (called here *Your_NIS_PW_Directory)*. The variable `DIR` points to the location of all other NIS maps, is noramally set to /etc and must be adapted if all other NIS maps are separated too (in following called *Your_NIS_Directory).* In this example *Your_NIS_PW_Directory* and *Your_NIS_Directory* are equal :

Important: CGS recommend to use the same directory for *Your_NIS_PW_Directory* and *Your_NIS_Directory!*

```
# cd /var/yp <Return>

# vi Makefile <Return>
. . .
.           (perform the edits)
DIR =Your_NIS_Directory
#
# If the passwd, shadow and/or adjunct files used by rpc.yppasswdd
# live in directory other than /etc then you'll need to change the
# following line.
# DO NOT indent the line, however, since /etc/init.d/yp attempts
# to find it with grep "^PWDIR" ...
#
PWDIR =Your_NIS_PW_Directory

:wq! <Return>
```

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Now follow the normal NIS activation steps by setting the domainname and calling the initialization script of the NIS. The domainname identifies your CGS domain and is stored in the file `/etc/defaultdomain`. Please use the domainname as planed at the Installation Help Sheet (appendix C). Remember the domainname shall be a string of letter without underscores up to eight characters.

```
# echo Your_NIS_Domainname > /etc/defaultdomain
# domainname Your_NIS_Domainname <Return>
# /usr/sbin/ypinit –m <Return>
```

The `ypinit` program prompts now for a list of other hosts to become NIS servers. Enter the name of the actual host (master server) and finish the list by pressing **<Ctrl–d>**. After that, the program displays the list and asks for confirmation. Press **<Return>** to accept the list of hosts.

```
Is this correct? [y/n: y]  <Return>
```

Then `ypinit` asks you whether to stop on non fatal errors. (A nonfatal error is raised e.g. if a NIS map is not available. This will not affect the functionality of the NIS service).

```
Do you want this procedure to quit on non fatal errors? [y/n: n] n <Return>
```

Now allow the usage of the NIS maps on the NIS master server itself. After this the installation of the operating system is finished. Remove the Solaris CD–ROM from the CD–ROM drive:

```
# cd /etc <Return>
# cp nsswitch.conf nsswitch.conf.save <Return>
# cp nsswitch.nis nsswitch.conf <Return>
# eject cdrom
```

4.1.6.3 CGS NIS Maps

After this a special CGS automounter map should be setup (inst. Work Sheet C.4.1). CGS requires that all archive directories of the CGS testnodes are mounted on each CGS client workstation. This can be done easily with the help of the automount facility. To make the information available on all CGS nodes, the CGS automounter map should be distributed by the NIS service.

To establish the new NIS map, which is called here `autocgs`, proceed as follows:

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```
            ( create the new map file )
# touch Your_NIS_DIR/autocgs <Return>

            ( insert the map into the NIS Makefile )
# cd /var/yp <Return>
# cp Makefile Makefile.orig <Return>



# vi Makefile <Return>

            ( insert map file into 'all' dependency )
      ...
      all:  passwd group hosts ethers networks rpc services protocols \
            netgroup bootparams aliases publickey netid netmasks c2secure \
            timezone auto.master auto.home autocgs

            ( insert make commands after definition of auto.home.time: )
      ...
      auto.home.time:
            ...
            fi

      autocgs.time:  $(DIR)/autocgs
            -@if [ -f $(DIR)/autocgs ]; then \
                  sed -e "/^#/d" -e s/#.*$$// $(DIR)/autocgs \
                  | $(MAKEDBM) - $(YPDBDIR)/$(DOM)/autocgs; \
                  touch autocgs.time; \
                  echo "updated autocgs"; \
                  if [ ! $(NOPUSH) ]; then \
                        $(YPPUSH) autocgs; \
                        echo "pushed autocgs"; \
                  else \
                  : ; \
                  fi \
            else \
                  echo "couldn't find $(DIR)/autocgs"; \
            fi

            ( insert file dependencies of the new map )
      ...
      auto.home: auto.home.time
      autocgs: autocgs.time
      ...
      $(DIR)/auto_home:
      $(DIR)/autocgs:

            ( Save and exit vi )
:wq! <Return>
```

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```
            ( export NIS maps )
# /usr/ccs/bin/make <Return>
.
updated autocgs

pushed autocgs
```

```
            ( activate the new map )
# vi Your_NIS_DIR/auto_master <Return>
...
            ( insert as last line: )
      /-    autocgs

            ( save and exit vi )
:wq <Return>
```

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The new automounter map is filled with data during the installation of the test nodes. Now you can restart the system:

4.1.6.4 CGS NIS netgroup

To ensure the correct work of CGS components it is mandatory that CGS users can execute commands remotely on all CGS hosts via `rsh`. For security reasons we recommend to define a netgroup which contains all CGS hosts and which is referenced within the `.rhost` files (see Installation Work Sheet C.4.2).

The file `netgroup` has following syntax:

```
netgroupname (host,user,domain) (host2,user2,domain2) (...)
```

After changing the file, the new definitions must be exported to the network:

```
# vi Your_NIS_Directory/netgroup <Return>

            ( add a line containing the netgroup definition, e.g.
.
.     CGS_Netgroup (Your_CGS_Server,,) (CGS_Host_1,,) (CGS_TestNode_1,,)...
.             Save and Exit vi )
:wq <Return>

# cd /var/yp <Return>
# /usr/ccs/bin/make <Return>
updated netgroup

pushed netgroup
```

At the end of your installation steps reboot the system. The system will reboot and start the multi–user mode and be ready for login:

```
# shutdown –i 6 –y <Return>
```

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4.2 CGS Testnodes and Clients

4.2.1 Sun Client Installation

The Solaris Installation on Sun Clients is described in chapter 10.1 starting on page 110. At this point, the installation could not be performed completely but if your CGS server has no graphic display it may be useful to install the operating system at a client and to run further installation steps from this workstation via `rlogin`.

4.2.2 Force Client Installation

Also the Force computer incorporation can only be performed later and is described in chapter 10.3 on page 124.

4.2.3 HP–UX Installation

The installation of the HP–UX operating system is described in chapter 10.4.1 at page 125. It is recommended that the Master Test Processor is available during the CGS installation.

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4.3 Service Installation

4.3.1 Oracle 7 Installation

For the Oracle 7 installation you need three CDs:

- Oracle (R) Products for Windows (Sql*Net V2 Conf. Files)
- Oracle 7 Server V7.3.4 for Sun SPARC Solaris 2.x (Basic Oracle)
- Developer / 2000 Release 1.6 for Sun Solaris (Forms, ReportWriter)

This induces the installation being carried out in three steps: The generation of the Sql*Net V2 Configuration files, the basic Oracle 7 installation and the installation of two additional tools, namely Forms 4.5 and ReportWriter 2.5.

Please use the form sheet in appendix C.3 to prepare your Oracle installation.

4.3.1.1 Check system configuration

Check the system parameter in /etc/system for shared memory. (see chapter 4.1.5)

```
# more /etc/system
```

If the parameter are differ, change them (see chapter 4.1.5) and reboot your oracle server.

```
# touch /reconfigure <Return>
# shutdown –i 6 –y <Return>
```

4.3.1.2 Generation of Sql*Net V2 Configuration Files

Oracle delivers a PC Windows software which must be used to generate the Oracle network configuration files. Refer to the Oracle Network Manager Administration Guide (AD 2.1.3) how to define the network configuration.

Following files will be generated: listener.ora, sqlnet.ora. tnsnames.ora

4.3.1.3 Basic installation

Now you have to create the Oracle user. The following sections assume that you will name the user ***YourOracleOwner***, and the user is a member of the group `dba`. Please use a unique User ID (uid) and a unique Group ID (gid). Then create the home directory and the starting directory of the Oracle installation:

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```
# vi Your_NIS_Directory/group <Return>
.
.     dba:*:gid:
.
:wq <Return>

# vi Your_NIS_PW_Directory/passwd <Return>
.
.     YourOracleOwner::uid:gid:Oracle7 Admin:Home_of_Oracle_User:/bin/csh
.
:wq <Return>

# vi Your_NIS_PW_Directory/shadow <Return>
.
.     YourOracleOwner:::::::
.
:wq! <Return>

# cd /var/yp <Return>

# /usr/ccs/bin/make <Return>
.
.
# passwd YourOracleOwner
password: <NewOraclePassword>
re-enter passord: <NewOraclePassword>

# mkdir -p Your_Oracle_Home Home_of_Oracle_User Your_FirstMountPoint <Re-
turn>

# chown -R YourOracleOwner:dba Your_Oracle_MountPoint Home_of_Oracle_User
Your_FirstMountPoint <Return>
```

Oracle 7 will not create a .profile and a .login file for the Oracle 7 user. Create an own environment, change all environment variables according to the Oracle 7 environment manually, especially for the variables ORACLE_BASE, ORACLE_HOME, ORACLE_SID, LD_LIBRARY_PATH and PATH:

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```
# su – YourOracleOwner
# vi .cshrc

        ( add the following settings at the beginning of the file:)

     setenv ORACLE_BASE YourOracleMountPoint/app/oracle
     setenv ORACLE_HOME $ORACLE_BASE/product/7.3.4
     setenv ORACLE_SID YourOracleSid
     setenv ORACLE_TERM xsun5
     ( for sun type 4 keyboards use 'sun' )
     setenv LM_LICENSE_FILE Your_ADA_HOME/license/license.dat
     set path=( $path $ORACLE_HOME/bin Your_ADA_HOME/bin /usr/ccs/bin )
     setenv LD_LIBRARY_PATH $ORACLE_HOME/lib:/usr/openwin/lib:/usr/dt/lib
     setenv EPC_DISABLED TRUE

        ( Save and Exit vi )

:wq

# exit
```

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Insert the CD–ROM containing the Oracle 7 Server V7.3.4 for Sun SPARC Solaris 2.x into the CD–ROM drive. It is mounted to the directory `/cdrom/oracle734` automatically.

Then login as the Oracle user, change to the installation directory `/cdrom/oracle734/orainst` and set the terminal variable to your local needs.

```
Login: YourOracleOwner <Return>
Password: Oracle_Password <Return>

% cd /cdrom/oracle734/orainst <Return>
OR
% cd /cdrom/cdrom0/orainst <Return>
```

To compile ProADA libraries you have to setup the correct environment for the ADA compiler (see Installation Work Sheet C.6.2). That means that the Ada software must be accessible, the directory with the executables is contained in the PATH variable, a license is available and the file `/etc/VADS` is set correct. The Oracle installation will use the first Ada compiler found in this file:

```
% cat /etc/VADS
      SELF_TARGET:6.2:Your_ADA_Home/self: # (Remarks)
```

Then call the Oracle installation script `orainst`. The script starts an Oracle forms dialogue which asks you for certain information according to your installation and then installs the software. More comfortable is to use the orainst with option /m for Motif–Application on graphic screens.

```
% ./orainst <Return>
(% ./orainst /m <Return>)
```

Now the Forms oriented installation script is started. The questions and answers are given in a command line mode. On the real screen, you have either to navigate to the correct answers or to enter them into the input field. In either case you have to press return at the end of your input. If you are not sure, select default selection.

```
Install Type:
 Select the install Type:
 (X) Default Install
 select OK to continue <Return>

Installation Activity Choice:
 Select the Installer activity:
 (o) Install, Upgrade, or De–Install Software
 select OK to continue <Return>

Installation Options:
 Install New Product – Create DB Objects
 select OK to continue <Return>

Environment Variables:
 select OK to continue <Return>

Relink All Executables?:
 select NO to continue <Return>

...oracle/product/7.3.4/orainst/defaults:
 select OK to continue <Return>
```

After this dialogue a window pops up, where you are asked to select the necessary Oracle7 products. Navigate to the products with the arrow keys, select a product by pressing the space bar. After all needed products are selected, go to the install button by pressing the <Tab> key. Then hit <Return>. The following products have to be selected:

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```
Software Asset Manager
select:
            1. Oracle Server Manager
            2. ORACLE UNIX INSTALLER
            3. ORACLE7 Server (RDBMS)
            4. PL/SQL V2 2.3.4.0.0
            5. Pro*Ada 1.8.4.0.0 (optional)
            6. Pro*C 2.2.4.0.0   (optional)
            7. SQL*Net (V2) 2.3.4.0.0
            8. SQL*Plus 3.3.4.0.1
            9. TCP/IP Protocol Adapters

select Install to continue <Return>

DBA Group:
 (o) dba
 select OK to continue <Return>


OSOPER Group:
 dba
 select OK to continue <Return>

Create DB Objects: Storage Type
 (o) Filesystem–Based Database
 select OK to continue <Return>
```

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The following allows you to distribute the Oracle control and data files over different hard disks for performance improvements and higher security. Do not distribute the Control files if you have only one hard disk for your oracle installation:

```
Create DB Objects (F/S): Control File Distribution
 Distribute control files over three mount points?
 select NO to continue <Return>

 Enter mount point
 Enter Your_FirstMountPoint <Return>
```

Select `US7ASCII` character set only, CGS do not support other charsets.

```
Character Set
 Select the character set for creating this database.  ...
 US7ASCII
 select OK to continue <Return>
```

Remember the password conversion for oracle. Oracle passwords are strings of letters, digits and underscores (see SQL ”Object Naming Rules” in Oracle 7 Server SQL Reference, Release 7.3, page 2–3 for detailed information.).

```
SYSTEM Password
 Enter new OracleSystemPasswd <Return>
SYSTEM Password
 Enter new OracleSystemPasswd <Return>

SYS Password
 Enter new OracleSysPasswd <Return>
SYS Password
 Enter new OracleSysPasswd <Return>

dba password
 Do you want to set the passwords for the internal users (dba operator)?
select NO to continue <Return>

Configure MTS and start a SQL*Net listener called 'LISTENER'?
 Would you like MTS (Multi–Threaded Server) configured and the  SQL*Net
 listener automatically started?
 select NO to continue <Return>

Create DB Objects(F/S): Control File Locator
 select YES to continue <Return>

DB Defaults
 The following are the default file names and sizes that will be used to
 create the new database ...
 select OK to continue <Return>

DB Defaults
 The file names and sizes continued ...
 select OK to continue <Return>

Default Database
 Select (Yes) to accept the default file names and sizes shown on the pre–
 vious screens.  Select (No) to specify new values.  Select (Back) to view
 the previous screens.
 select YES to continue <Return>
```

(Now the installation is started, it will take a while – about 30 minutes on a sparc server 4, about 15 minutes on a ultra1)

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```
Shared Library Installation
 Installation of shared oracle library for Pro*C , OCI and XA clients is
 complete.
 select OK to continue <Return>

Information
 To complete the installation, please exit the Oracle Installer  and run
 root.sh as root....
select OK to continue <Return>

Installer Actions Completed
 The requested action has been performed for selected products...
 select OK to continue <Return>

Software Asset Manager
 select EXIT to continue <Return>

Are you sure you want to exit the Oracle Installer?
 select YES to exit <Return>

Result: Success.
```

Now remove the CD–ROM from the CD–ROM drive. Then call the script `root.sh`, which has been created by the installation procedure depending on your inputs. You have to call it as root. Therefore, change the directory to `orainst` below the Oracle home directory, su to root, and call `root.sh`:

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```
% cd $ORACLE_HOME/orainst <Return>
% eject cdrom

% su <Return>
Password: RootPassword <Return>

# mkdir /opt/bin
# ./root.sh <Return>
The following environment variables are set as:
    ORACLE_OWNER= YourOracleOwner
    ORACLE_HOME=  YourOracleMountPoint/app/oracle/product/7.3.4
    ORACLE_SID=   YourOracleSid
Are these settings correct (Y/N)? [Y] <Return>
Enter the full pathname of the local bin directory [/opt/bin] <Return>

ONLY if your home directory of YourOracleOwner is not the ORACLE_HOME you
get following:
ORACLE_HOME does not match the home directory for oracle.
Okay to continue? [N]: Y <Return>



.
.
Please raise the ORACLE owner's ulimit as per the IUG.

Leaving common section of ORACLE7 root.sh.

# exit <Return>
```

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This finishes the basic installation of Oracle7. Remain logged in as the Oracle user. To disable Oracle trace for performance reasons, rename its trace directory:

```
% cd $ORACLE_HOME
% mv otrace otrace.disabled
```

4.3.1.4 Add–ons Installation

From the next CD you have to install two different products: `Forms 4.5` and `ReportWriter 2.5`. These two products have to be installed. Remark that this is client software and have to be installed normally to a different $ORACLE_HOME. In CGS the $ORACLE_HOME's for server installation and for client installation pointed still to the same location.

Insert the Developer/2000 CD in the CD–ROM drive. The CD is automatically mounted. Then call the installation script as before:

```
% cd /cdrom/oracle/orainst <Return>
OR
% cd /cdrom/cdrom0/orainst <Return>
% setenv ORACLE_TERM sun5
% ./orainst <Return>
```

The installation script is started, which asks you in a dialogue for the same basic information as before. Note that this time, you must **not** relink the oracle product executables:

```
Install Type:
 Select the install Type:
 (X) Default Install
 select OK to continue <Return>

Installation Activity Choice:
 Select the Installer activity:
 (o) Install, Upgrade, or De–Install Software
 select OK to continue <Return>

Installation Options:
 Install New Product – Do not Create DB–Objects
 select OK to continue <Return>

Installation Options: Home Locator
 select OK to continue <Return>

Relink All Executables
 select NO to continue <Return>

YourOracleMountPoint/app/oracle/product/7.3.4/orainst/defaults
 select OK to continue <Return>

Software Asset Manager
select:
            1. Oracle Forms
            2. Oracle Reports Client Server
 select Install to continue <Return>
```

Outside of the following dialog the Oracle installation program may ask you wether elder libraries should be overwritten by a newer version. Answer ’yes’ to this question.

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```
Demos
Would you like to install the PL/SQL Procedure Builder demos...
select Yes to continue <Return>

GUI choice
Select one or more user interfaces for Oracle Forms ...
(o) Motif Bitmapped Interface <Return>

Demos
Would you like to install the Oracle Forms demos?
select Yes to continue <Return>

GUI choice
Select one or more user interfaces for Oracle Reports 2.5...
(o) Motif Bitmapped Interface <Return>

Demos
Would you like to install the Oracle Reports 2.5 demos?
select Yes to continue <Return>
```

Now this installation is started, take a while (about 15 minutes on a sparc server 4, about 8 minutes on ultra 1)

```
Install Completed
The requested action has been performed for selected products...
select OK to continue <Return>


Software Asset Manager
 select EXIT to continue <Return>
 Are you sure you want to exit the Oracle Installer?
 select YES to exit <Return>

Result: Success
```

Remove the CD from the CD–ROM drive.

```
% cd $ORACLE_HOME/orainst <Return>
% eject cdrom <Return>
```

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4.3.1.5 Install the Sql*Net V2 Configuration Files

First the files that were generated during step 4.3.1.2 have to be copied to the CGS Server, then they are copied as follows to $ORACLE_HOME:

```
% cd Location_of_Config_Files
% cp listener.ora sqlnet.ora tnsnames.ora $ORACLE_HOME/network/admin
```

The following two lines in the file sqlnet.ora have to be commented out:

```
#SQLNET.CRYPTO_SEED = "–140377747–140232233"
#SQLNET.AUTHENTICATION_SERVICES = (ALL)
```

4.3.1.6 Check the Oracle Database

Now it is time to check the Oracle Database. Login as user *YourOracleOwner*. Then enable the automatic Oracle startup via `dbstart` command within the file `/var/opt/oracle/oratab` and execute the following commands.

```
%  vi /var/opt/oracle/oratab
.           (replace the letter 'N' within the line of your Oracle instance
             to 'Y' )
.
      Your_Oracle_SID:Your_Oracle_Home:Y
.
.           ( Save and Exit vi )
:wq <Return>
```

Try to shutdown and startup your oracle server:

```
%  dbshut
%  lsnrctl stop
%  dbstart
%  lsnrctl start
```

Check the oracle processes now:

```
%  ps –ef | grep ora
      ora_smon_YourOracleSid
      ora_lgwr_YourOracleSid
      ora_pmon_YourOracleSid
      ora_dbwr_YourOracleSid
      Your_Oracle_Home/bin/tnslsnr
```

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4.3.1.6.1 Change dbshut script

The dbshut script has to change to expand the safety of system shutdown on DB–Server.

Important: dbshut should ONLY be executed as part of the system boot procedure.

```
% cd $ORACLE_HOME/bin
% cp dbshut dbshut.save‘date ’+%m.%d.%y’‘
% sed ’s/shutdown$/shutdown immediate/g’ dbshut.save‘date ’+%m.%d.%y’‘ >
dbshut
```

Try to shutdown and startup your oracle server:

```
%  dbshut
%  lsnrctl stop
%  dbstart
%  lsnrctl start
```

Check the oracle processes now:

```
%  ps –ef | grep ora
      ora_smon_YourOracleSid
      ora_lgwr_YourOracleSid
      ora_pmon_YourOracleSid
      ora_dbwr_YourOracleSid
      Your_Oracle_Home/bin/tnslsnr
```

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4.3.1.7 Extra Functionality

You have to load an additional Oracle 7 script to use extra functionality of Oracle 7 (stored sqldba scripts), which are not included in the standard installation. Change directory to `rdbms/admin`, call sqlplus, login as Oracle user `sys` and start the sql–scripts `catproc` and `catalog6`:

```
% cd $ORACLE_HOME/rdbms/admin <Return>
% sqlplus <Return>
SQL*Plus: Release x.x...
.
Enter user-name: sys <Return>
Enter password: OracleSysPassword <Return>

Connected to:
Oracle7 Server Release 7.3.4 - Production Release
.
SQL> start catproc <Return>
.
.           (lasts 5 minutes on a ultra 1,
             ignore error messages which are related to the deletion of
             database object which are not yet existing )
.
SQL>
SQL> start catalog6 <Return>
.
.           (ignore error messages which are related to the deletion of
             database object which are not yet existing)
.
SQL>
SQL> exit <Return>
```

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4.3.1.8 Printer Configuration

At last modify the printer definitions file of Oracle:

```
% cd $ORACLE_HOME/guicommon2/tk23/admin <Return>
% vi uiprint.txt <Return>
.
.           (change the printer definition lines to your local needs
             e.g.  cgs_p: PostScript:1:CGS printer:default.ppd  )
.
:wq <Return>
```

Note: If the `tk23` directory does not exist, use the `tk21/admin/uiprint.txt` file for editing.

4.3.1.9 Oracle Patch

To use Oracle together with CGS you have to apply some patches. Login as the Oracle Owner and set the Ada environment if not available from the previous Oracle installation steps:

```
% set path = ( $path Your_ADA_HOME/bin /usr/ccs/bin) <Return>
% setenv LM_LICENSE_FILE Your_ADA_HOME/license/license.dat <Return>
```

Shutdown all instances running from this $ORACLE_HOME.

```
% dbshut <Return>
% lsnrctl stop <Return>
```

4.3.1.9.1 Oracle Patch Set 7.3.4.4

The first patch is the **Oracle Patch Set 7.3.4.4**. Ask your oracle distributor for patch availability. Follow the instructions given in Patch Set Notes Version 7.3.4.4. The notes are part of patch set bundle and are located under
*Location_of_Patches/*7.3.4.4/rdbms/notes/patch_note.htm.

View the file patch_note.htm with a HTML browser and follow the instructions.

Important: Use the ”not running Replication” statements at the end of patch installation.

```
% setenv PATCH_DIR Location_of_Patches <Return>
% mkdir $ORACLE_HOME/patchset <Return>
% cd $ORACLE_HOME/patchset <Return>
% zcat $PATCH_DIR/7344patchset.Z | tar –xvf –  <Return>
% cd $ORACLE_HOME/patchset/7.3.4.4.0/rdbms/notes <Return>
      The documentation of installing patch is located in the current
      directory. Follow now the given instructions...
```

4.3.1.9.2 Varraw Patch

The second patch is provided by the CGS developer team and is contained on the CGS delivery media. It replaces the file sqatyb.ada. It is only to be executed, if Pro ADA is installed.

Shutdown all instances running from this $ORACLE_HOME.

```
% dbshut <Return>
% lsnrctl stop <Return>
```

To install the patch, insert the CGS delivery CD–ROM into the CD–ROM drive. The CD is automatically mounted to the directory /cdrom/cdrom0. Then enter following commands:

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```
            ( Save old copy of sqatyb.ada )

% cd $ORACLE_HOME/precomp/pubsrc/adalib <Return>
% cp –p sqatyb.ada sqatyb.ada_pre_varraw <Return>

            ( Copy new sqatyb.ada to your adalib directory )

% cp –p /cdrom/cgs/cgsi/tape/patch/oracle_varraw/sqatyb.ada . <Return>
OR
% cp –p /cdrom/cdrom0/cgsi/tape/patch/oracle_varraw/sqatyb.ada . <Return>
            ( Rebuild adalib )

% eject
% make –f ins_precomp.mk clean <Return>
% make –f ins_precomp.mk compile <Return>
```

After this you have to relink already existing Ada application programs and to restart the database. Then leave the shell:

```
% dbstart <Return>
% lsnrctl start <Return>
% exit <Return>
```

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4.3.2 Dataviews Installation

You need one tape DataViews Version 9.7a for Solaris. A C compiler must be available.

Login as `root`. Mount the Dataviews distribution tape on the tape drive. Then enter the following sequence of commands to create the DataViews home directory, to load the files from tape and to initialize the software package. For *Your_DataViews_Directory* and Your_C_HOME use the definition from the Installation Help Sheet (appendix C, CONFIG_C.5.1)

Important: Don't pipe the `DVinstall` output via the `tee` command to create a log file. `DVinstall` may not work with `tee`.

```
# PATH="$PATH:Your_C_HOME/bin:/usr/ccs/bin" <Return>
# LM_LICENSE_FILE=Your_C_License_File
# export LM_LICENSE_FILE PATH
# mkdir -p Your_DV_Home <Return>
# cd Your_DV_Home <Return>
# tar -xvfb 1000 /dev/rst0 <Return>            (sometimes without b 1000!)
# chown -R root:bin Your_DV_Home <Return>



# ./DVinstall <Return>
.
.
What is the correct name for the directory containing this script [Your_Da-
taViews_Directory]?  <Return>
.
.
Do you want to perform the tailored installation [no]?  yes <Return>
.

 1) XWINDOWS              2) HP7550A              3) HP7475A
 4) PaintJet              5) Postscript           6) Metafile

 (a) all  (q) quit/abort  (d) done  (r) redisplay  (c)clear/restart

 Make a selection:       1 <Return>
.

 Make a selection:       d <Return>
Are you sure? (y/n):     y <Return>

Do you have the X windows libraries installed [yes]? <Return>

Where are the X windows libraries installed [/usr/openwin/lib]? <Return>

Where is the X windows include directory installed [/usr/openwin/include]?
<Return>
```

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```
.                        (list of installation options )

      Continue the installation [yes]? <Return>
      .
      .
      DataViews installation complete at ...



      # . ./DVinit <Return>
      # cd etc <Return>
      # ./Validate <Return>
```

Validate gives you a Validation Sequence, which you have to give to the V.I Validation Hot–Line. Ask your system administrator, where to phone or to fax for the information. The Validation Hot–Line will send you the authorization sequence, which you have to enter in the next step. However, this can last some time and you can continue with the further CGS installation. If you want to restart at this point , login as root, change directory to the correct position of the Authorize script, and do not forget to call source DVinit again, before starting:

```
      # ./Authorize <Return>
      Enter your authorization sequence: Your–authorization–sequence <Return>
      How many license servers are being authorized? (1,3,5) [1]:
      Enter the hostname for server #1: YourServerHostName <Return>
      Enter the (hexadecimal) hostid for server #1: YourServerHostId <Return>
      TCP/IP port for license manager [1700]: 970 <Return>
      Please supply some information for your own reference...
            Your company's name     : YourCompanyName <Return>
            Release label number    : 9.7a <Return>
            installed by            : InstalledBy <Return>
            Expiration date         : YourExpirationDate <Return>
            Productcode             : YourProductCode <Return>
            Comment                 : YourComment <Return>
      .
      .
      #
```

Next you have to start the license daemon. Take care that it is started automatically all the time the machine is booted. Therefore insert a startup script into the directory `/etc/init.d` and link this to the execution directory `/etc/rc3.d`.

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```
# cd /etc/init.d
# vi dataviews <Return>
            ( insert the text

      #!/sbin/sh

      # Start DataViews Licence Server
      # ------------------------------

      case "$1" in
      'start')
            Your_DV_Home/etc/lmgrd -c Your_DV_Home/etc/license.dat \
            > /var/log/DataViews_9.7.log 2>&1 &
            exit 0
            ;;
      'stop')
            exit 0
            ;;
      *)
            echo "Use start or stop option, please"
            exit 0
            ;;
      esac

:wq <Return>



# chmod u+x dataviews <Return>
# ./dataviews start <Return>

# cd /etc/rc3.d
# ln /etc/init.d/dataviews S70dataviews
```

Now the installation of DataViews is completed. You may test the correct installation with the program `DVdraw` to check a development license. If you have a runtime license, you may verify the installation with the command **`DVproto -v logo.v`** which displays a window containing the DataViews Corporation logo.

This finishes the installation of Dataviews 9.7.

4.3.2.1 Patch052 Installation

CGS require the Dataviews patch 052 for correct working. Ask your Dataviews distributor for patch availability.

Change owner to superuser root and follow instructions below:

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```
# su –
# cd $DVHOME
# cp $PatchLocation/p052.solaris.tgz .
# tar xvf p052.solaris.tgz
# sh
# . ./DVinit
# cd DVpatch
# ./Install patch052

  Working on standard version of libDVfmt
    Extracting original objects from library
    Inserting patched objects into library

  Working on shared version of libDVfmt
    Extracting objects from patch library
    Saving original objects and getting patched objects
    Rebuilding shared library
    Inserting patched objects into patch library


  If there were no error messages, then patch052 has been
    installed successfully.  You should now go to the DataViews
    home directory and run the installation procedure so that
    the DataViews applications will be rebuilt against the patched
    libraries.  Also remember to relink your own application
    programs so that they can take advantage of the patches.



# cd ..
# ./DVinstall  (see above)
  ...
# exit
```

Now the installation of DataViews Patch is completed. You may test the correct installation with the program `DVdraw` to check a development license. If you have a runtime license, you may verify the installation with the command **`DVproto -v logo.v`** which displays a window containing the DataViews Corporation logo.

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4.4 CGS Delivery Installation

4.4.1 Preparations

Important: Before installing CGS, please check the Release Notes: Known Bugs and Workarounds, for workarounds, which have to be applied during the installation process.
Additional check wether all required patches are installed (Solaris – see sec. 4.1.4 on page 18, Oracle – see sec. 4.3.1.9 on page 41, Dataviews – see sec. 4.3.2.1 on page 46)

First login as user `root` on the CGS Server.

You have to decide now, which directory shall contain the CGS software. In the following this directory is called *Your_GSAF_HOME* (see Installation Work Sheet in appendix C, item C.4.3). Set the environment variable `GSAF_HOME` to the directory which you have designated to contain the CGS software. Then create this directory and mount the partition which shall contain the CGS software. Mount also all local and remote filesystems which will be used by CGS:

Note: If you have defined the CGS partitions during the Solaris installation, then they are already mounted.

```
Login: root<Return>
Password: RootPassword<Return>

            ( set terminal type if not on standard sun console )
# TERM=Your_Terminal_Type <Return>

# GSAF_HOME=Your_GSAF_HOME <Return>
# export TERM GSAF_HOME <Return>

# mkdir –p $GSAF_HOME <Return>
# mkdir –p $GSAF_HOME/customconfig <Return>
```

Create other directories where filesystems shall be mounted e.g. User Home

```
# mkdir –p /MountPoint

# vi /etc/vfstab<Return>
            ( insert mounts of local partitions if not already mounted,
              e.g. for Your_GSAF_HOME, User etc.
.
.     /dev/dsk/Partition  /dev/rdsk/Partition  /MountPoint  ufs  1 yes  –
.
            ( insert the mounts of network filesystems, e.g. products to be
              integrated with or used by CGS (Ada etc.):
.
.     server:directory  –     directory   nfs 0 yes rw,intr,bg
.
:wq <Return>
```

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4.4.2 Install CGSI

Important: Before installing CGSI, please check the correct installation of CGS NIS maps (described in section 4.1.6 page 19).

Now insert the CGS delivery CD into the CD–ROM device. The CD–ROM is automatically mounted to the directory `/cdrom/cgs.` To verify the source directory type:

```
# cd /cdrom/cgs<Return>
OR
# cd /cdrom/cdrom0<Return>
# ls –l<Return>
            ( CGS product directories are shown )
drwxr–xr–x   6 3015     2600         512 May 26 13:13 cgs/
drwxrwxr–x   4 3015     2600         512 May 26 13:12 cgsi/
drwxr–xr–x   6 3015     2600         512 May 26 13:15 cls/
. . .
```

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4.4.2.1 Configure the installation

Before starting the CGSI/CGS installation, copy and adapt all required configuration files.

4.4.2.1.1 CGS configuration

It is neccessary to decide which parts of CGS are to be installed. To suppress products from being installed, the configuration file install_gsaf.cfg must be edited. In the example below, the installation of the CGS–APIs is suppressed. Comment out all products which are not wanted.

```
# mkdir –p $GSAF_HOME/customconfig <Return>
# cp ./cgs/config/install_gsaf.cfg $GSAF_HOME/customconfig/ <Return>
# vi $GSAF_HOME/customconfig/install_gsaf.cfg <Return>
.
            ( replace line 'cgs:' by the lines:

      cgs: install_cgs, deinstall_cgs     ( product: inst./deinst. script )
        install_cgs –noapi                ( call of inst. script        )
        deinstall_cgs                     ( call of deinst. script      )
.
            Save and Quit vi )
:wq <Return>
```

4.4.2.1.2 CSS configuration:

If installation of the CGS product CSS is required, it is neccessary to edit the CSS configuration file. This file specifies which processors are used to compile simulation models, which architectures are to be installed and which compilers are to be used. For installation the ADA compiler should be visible on

the installation host (CGS server) and the `/etc/VADS` file on this host should contain the correct entries. First copy the `css_configuration` file:

```
# mkdir –p $GSAF_HOME/customconfig <Return>
# cp css/config/css_configuration $GSAF_HOME/customconfig/
```

This file can be customized as follows (refer to the Installation Work Sheets C.6):

```
# vi $GSAF_HOME/customconfig/css_configuration
...
#arch server      ADA_PATH    REMOTE_PATH LICENSE_PATH  COMPILER_VERSION

.           ( change the Ada definitions to local needs, e.g.:

  sun5            cgs–s /cots/vads  NONE        DEFAULT

            then save the file and exit the editor )
:wq <Return>
```

Note:

`arch`	architecture of your simulation node (only sun5 supported in this version)
`server`:	the host on which the ADA compiler will be executed – for installation enter the CGS server only
`ADA_PATH`:	UNIX path of ADA installation – is normally identical to entry in /etc/VADS file (without self directory)
`REMOTE_PATH`:	path of ADA location in case it shall be called remotely
`LICENSE_PATH`:	full name of the license file, if this is not at it's default position

4.4.2.1.3 Testnode on SUN–Server

If you want to use the database server as testnode too, you need to add an entry on `cgs.globalconfig` file below `$GSAF_HOME/customconfig`.

```
# mkdir –p $GSAF_HOME/customconfig <Return>
# vi $GSAF_HOME/customconfig/cgs.globalconfig <Return>
            (append line for new testnode on SUN)

      _tnHost#=servername
            (eg.  _tnHost1=cgs–server

            Save and Quit vi )
:wq <Return>
```

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4.4.2.2 Start the installation

Then start the CGSI installation script, which asks several questions due to your CGS environment. Depending on your answers and the configuration of the UNIX environment, the CGS installation may differ from the following example. So please read the questions and outputs of the installation script carefully. Answer dependent on your planned CGS environment (see the Installation Work Sheets appendix C). The script will determine mostly correct answers from the system environment, which are given as the answer defaults within brackets:

```
# cgsi/tape/config/install/install_cgsi <Return>

          CGSI Procured Products Configuration [CGSI version x.x.x]
          ========================================================
.

Enter disk/install status (server|client) [server]: server <Return>

Enter NIS status (master|client) [master]: <Return>

Enter NIS netgroup name (netgroupname|none) [cgshosts]: CGS_Netgroup <Re-
turn>

Enter Oracle status (server|client) [server]: <Return>
```

The following questions are about different Oracle Homes. Oracle Home for the server, which is according to Oracles Flexible Architecture (OFA), is NOT the home directory of the oracle user. It is the directory, where the Oracle software version 7.3.4 is stored. Oracle Home for the client (OFA, see above) is the directory, where the Oracle client software with Developer/2000 is stored. But in our case the Oracle Home for the server is the same as for the client.

```
[Your_Oracle_Home]:
Enter Oracle server home [Your_Oracle_Server_Home]: <Return>

.

Enter Oracle client home [Your_Oracle_Server_Home]: <Return>
.
```

The following path contains at least your Oracle directory, but the other required software directories (DataViews, Compiler, ...) should be there too. If all these software directories, except Oracle, are in different locations, you have to mount them yourself.

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```
.
Enter tools path for NFS export [Your_Oracle_Mountpoint]: <Return>

Enter Oracle SID [Your_Oracle_SID]: <Return>

.

Enter TWO_TASK environment for CGS [Your_TWO_TASK]: <Return>
Enter Oracle user name [Your_Oracle_Owner]: <Return>
Enter Oracle group name [Your_Oracle_Group]: <Return>

Enter full pathname to DataViews (skip with "none") []: Your_DV_Home

Enter mail status (mailhost|client) [client]: <Return>

Enter mail server for this host (none|hostname) []: none <Return>

Enter name of CGS source directory [/cdrom/cgs]: <Return>

Enter user owner of product homes [Your_CGS_Admin]: <Return>

  User Your_CGS_Admin does not exist.
.
Do you want to create "Your_CGS_Admin" here ? (y|n): y <Return>

Specify group of user Your_CGS_Admin ? [cgs]: <Return>

.

Enter parent directory name for CGS users [/users]: User_Home_Parent_Direc-
tory <Return>
```

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The next question concerns the environment variable TN_HOME. It specifies where the test node software will store temporary archive files. The pathname which is denoted here should be local on each Test Node. This pathname is completed by the hostname of each testnode during runtime. These directories are mounted on the CGS server and on all CGS clients.

Note: The basename for TN_HOME must be identical on all test nodes (see Installation Work Sheet C.4.6).

```
Use Test Execution Software (y|n) ? [y]: <Return>

.

Enter base for TN_HOME without trailing hostname: [/testnode]: <Return>
```

The script `'install_cgsi'` displays now the actual given configuration. After confirmation the installation process is started. First the script will create the system account of the CGS Administration User. Then other CGS groups and Users are installed:

```
Are these values correct in order to update your system (y|n) ? : y<Return>
```

```
.
          Maintain users and groups
          -------------------------
.
  Please enter Unix password for user "Your_CGS_Admin".
.
New password: Password<Return>
Re-enter new password: Password<Return>


Create CGSI specific groups and users here (y|n) ? [y]: <Return>

.           ( messages about created groups )
.
.           ( messages about the created User account 'dbadmin' )

  Please enter Unix password for user "dbadmin".
.
New password:Password <Return>
Re-enter new password:Password <Return>

.
          Maintain netgroup
          -----------------

Handle CGS specific NIS netgroup here (y|n) ? [y]:  <Return>

.

Create these .rhosts lines here (y|n) ? [y]: <Return>

  Your_CGS_Admin's .rhosts file updated

          Configure Imports/Exports
          -------------------------

Insert GSAF_HOME directory Your_GSAF_Home into /etc/dfs/dfstab (y|n) ? [y]:
<Return>

Insert users directory Your_User_Home into /etc/dfs/dfstab (y|n) ? [y]:
<Return>

Insert tools (Oracle) directory into /etc/dfs/dfstab (y|n) ? [y]: <Return>

Create product directories (y|n) ? [y]: <Return>

          Copy Files
          ----------

Copy the CGSI files from CD-ROM to CGSI_HOME ? (y|n) [y] <Return>
.
```

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The installation script configures the commercial tools for CGS now. First a link is set to the DataViews directory. Then the Oracle tablespaces are created, which are used by CGS. Adapt the size of the tablespaces to your local needs (e.g. 1 KB for TS_SDE if SDE is not used, 1000MB for TS_MPS if a large MDB is used)

```
          Maintain DataViews
          ------------------
.
Create a link to the REAL DataViews installation ? (y|n) [y]: <Return>

          Maintain Oracle
          ---------------
.
Enable automatic startup of Oracle at system boot time (y|n)? [y]: <Return>

Do you want to handle stale locks (y|n) ? [y]: <Return>

Install the CGS related Oracle tablespaces (y|n) ? [y]: <Return>

.

Enter size of the TS_MPS table space [200M]: <Return>

.

Enter size of the TS_SDE table space [100M]: <Return>

.

Enter size of the EVENT_SPACE table space [100M]: <Return>

.

Enter directory [Your_Firstmountpoint/oradata/Your_Oracle_SID]: Your
_Data_Directory <Return>

.           ( List of given tablespace definitions )

Are these table space settings correct (y|n) ? : y <Return>

  Please do NOT interupt the next operation.

.

          Special tasks
          -------------

Do you want to activate login logging (y|n) ? [y]: <Return>

.

          Update Dot files
          ----------------
.
```

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```
Copy User Dot Files to Your_CGS_Admin home (y|n) ? [y]: <Return>

.

Copy CGSI root dot files to root directory (y|n) ? [n]: <Return>

.

Extend the root directory "dot files" (y|n)? [n]: <Return>
```

The Script '`install_cgsi`' will now install the online documentation in PDF format and the Tcl/Tk toolset.

```
          PDF + Tcl/Tk
          ------------

Do you want to install the PDF Documentation (y|n) ? [y]: <Return>

.

Do you want to install Acrobat reader now (y|n)? [y]: <Return>

.

Where do you want to install Acroread ? [Your_GSAF_Home/Acrobat3]: <Return>

Directory does not exist. Create it (y|n) ? [n]: y <Return>

.           ( License agreement of Acrobat Reader,
              move forward with <SPACE> )

Do you accept the terms and conditions of this license agreement? accept
<Return>



Do you want to install Tcl/Tk and extensions (y|n) ? [y]: <Return>

Where do you want to install Tcl/Tk ? [Your_GSAF_HOME/tcltk]: <Return>
```

At last, the installation script adapts the startup scripts of the CGS server. It enables the startup of Oracle and needed CGS processes within two startup files located in `/etc/init.d.` This files are hard linked to the real executed startup directories `/etc/rc0.d` and `/etc/rc3.d.` The order of execution of the startup scripts is given by a number in the file name, which you can select at this point:

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```
          Boot and startup files
          ----------------------

Insert Oracle startup and shutdown into /etc/rc dirs (y|n)? [y]: <Return>

.

          ( Information to startup/shutdown scripts )

Hit RETURN to continue <Return>

          ( Information to startup/shutdown scripts )

Hit RETURN to continue <Return>

.         ( list of Startup/Shutdown files )

Please enter a distinct name ? [oracle]: <Return>

.

Please enter a distinct number for the S__oracle link ? [51]: <Return>

..        ( list of shutdown scripts in /etc/rc3.d. )

Please enter a distinct number for the K__oracle link ? [51]: <Return>

.

Do you want to install the CGS rc scripts ? [y]: <Return>

.         (some explanation to the task to be done )

Hit RETURN to continue <Return>

.         (some explanation to the task to be done )

Hit RETURN to continue <Return>

.         ( list of startup files in /etc/rc3.d. )

Please enter a distinct number for the S__cgs link ? [61]: <Return>

.         ( list of shutdown files in /etc/rc0.d )

Please enter a distinct number for the K__cgs link ? [41]: <Return>

.         ( list of changed files, some further hints )
```

The script `install_cgsi` ends here. The installation can be verified within the log file `$GSAF_HOME/log/`*`HostName`*`.install.log`.

If the CGS installation is distributed over more than one filesystem, then verify within the file `/etc/dfs/dfstab` that all file systems which have to be mounted by the CGS clients are exported. Do not forget to call `shareall` after you have edit the file:

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```
# vi /etc/dfs/dfstab <Return>
            ( add lines for all filesystems which shall be exported to
              client hosts – e.g. additional User Home Directories,
              DataViews, etc.                                          )

      share –F nfs Export_Directory

:wq <Return>

# shareall <Return>
```

4.4.3 Install GSAF

4.4.3.1 Preparations

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You are still logged in as `root`.

To ensure the correct work of CGS components, it is mandatory that CGS users, especially the CGS Administrator, can execute commands remotely on all CGS hosts via `rsh`. Therefore, the user's `.rhost` file must be setup to allow remote access. For security reasons we recommend to define a net-group which contains all CGS hosts and which is referenced within the `.rhost` files (see Installation Work Sheet C.4.2 and sec. 4.1.6 for installation). Please check this file and the correct names of all CGS hosts.

```
# more Your_NIS_Directory/netgroup
```

Now login as the CGS Administrator and setup the `.rhost` file. Additional to his own access rights the CGS Administrator must give `root` the permission to execute commands via `rsh:`

```
# su – Your_CGS_Admin <Return>

hostname:Your_CGS_Admin 1: vi .rhosts <Return>
.
.           ( add line in the form:
.
      +@CGS_Netgroup Your_CGS_Admin
      +@CGS_Netgroup root

              Save and Exit vi )
:wq <Return>

hostname:Your_CGS_Admin 2: chmod 600 .rhosts <Return>
hostname:Your_CGS_Admin 3: exit <Return>
```

4.4.3.2 Installation

During the next installation step the script `install_gsaf` is called. If your CGS delivery contains CSS, the installation script will compile ADA libraries used for simulation models. So the Simulation Node or a host performing the same operating system must be available. The host must be reachable via the `rsh` command and must have mounted the GSAF_HOME directory. The ADA environment must be available. Install the Ada compiler or mount it from the network.

Note: Normally the CGS server and the simulation node are executing the same operating system. That's why the CGS server can be used for the CSS library compilation.

Now call the script `install_gsaf.` The script installs all CGS products including the CGS–API by default. To perform a private installation copy the default configuration file `/cdrom/cgs/cgs/config/install_gsaf.cfg` to the directory `$GSAF_HOME/customconfig` and change it to your needs. (see sec. 4.4.2.1.1)

Note: Read careful the section 4.4.2.1 and follow to be sure, you have configured your configuration well.

```
# cd /cdrom/cgs <Return>
OR
# cd /cdrom/cdrom0 <Return>
```

To perform the installation simply call the script `install_gsaf`:

```
# cgs/util/common/install_gsaf <Return>
```

The installation proceed as follows:

```
            Installation of CGS products [GSAF version x.x.x]
            ================================================

.             ( Installation messages of CGS products
.               – about 10 min. needed to copy the cgs api )
```

All CGS products are installed without any user interaction. The output of the installation script is appended to the file `$GSAF_HOME/log/`*`HostName`*`.install.log` and can be verified there. The example below prints the result of a complete GSAF installation:

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```
# more $GSAF_HOME/log/HostName.install.log <Return>

...
          Return Code after all products
          ------------------------------

  cgs......0        css......0        fwdu.....0        gwdu.....0
  cls......0        mda......0        hci......0        tss......0
  dbs......0        tes......0        tev......0        tscv.....0
  sde......0        smives...0        tes_sas..0        tts......0


...
          GSAF installation finished without errors on HostName
           (date)
```

4.4.3.2.1 Testnode on SUN–Server

Important: If you want to use the database server as testnode, you need to change the autocgs NIS map now.

Enter following line in the `autocgs` file in `Your_NIS_Directory` only if you want to use the database server as testnode. `Your_TN_BASE` you specified during install_cgsi is by default /testnode.

```
# vi Your_NIS_DIR/autocgs <Return>
.           ( insert a new line to intoduce your testnode directory)
.
.Your_TN_BASE/hostname  –rw,intr,soft  hostname:/export/Your_TN_BASE/host-
name

(e.g.
/testnode/db–server –rw,intr,soft db–server:/export/testnode/db–server
)

:wq <Return>



# cd /var/yp <Return>
# /usr/ccs/bin/make <Return>

# automount –v <Return>
```

4.4.3.3 Unmount CD

After some minutes the CGS installation script `install_gsaf` terminates. Then unmount the CD and logout:

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```
# cd / <Return>
# eject cdrom <Return>
# exit <Return>
```

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5 BASIC CONFIGURATION

5.1 MDB Configuration

5.1.1 MDB SID Ranges

At this place you have to make a case distinction. Either you will use MDB as element contractor or as subcontractor.

If you are `element contractor`,

- you will be able to create system tree versions and your are able to define your own range for the short identifiers (SID) invisibly used within the database. In this case you create the SID ranges with the so called SID range tool, see chapter 5.1.1.2.

If you are `subcontractor`,

- you get a subdirectory called `mdb_installations`, which is a complete SID range for your amount of the database. In this case you have to install your SID range as described in chapter 5.1.1.1.

5.1.1.1 SID Range Delivery

Important: Perform this section only if you are `subcontractor`.

Together with your CGS delivery you got a S/W delivery with the definition of your MDB instance. This is contained in a subdirectory named **`mdb_installations/Your_Instance_Name.`**
You have to copy the directory `mdb_installations` to the directory `$GSAF_HOME/mda/config`, where the installation script of MDB expects it to be:

```
Login: Your_CGS_Admin <Return>
Password: YourPassword <Return>
hostname:Your_CGS_Admin 4: cp –r SidRangeDelivery/mdb_installations
$GSAF_HOME/mda/config <Return>
```

5.1.1.2 SID Range Creation

5.1.1.2.1 Install SID Range Tool

To create the sid range for a MDB instance, you need a user account who performs this task in his home directory. You can use any user account already existing on the system. In following the example user is called `SID_Administrator`.

Login as the CGS administration user on the NIS master server, then change your permissions to `root` and call the central user installation script `install_user`.:

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```
Login: Your_CGS_Admin <Return>
Password: YourPassword

hostname:Your_CGS_Admin 1: su <Return>
Password: RootPassword <Return>

# $GSAF_HOME/cgs/util/common/install_user <Return>

Enter the login name for the new CGS user [Your_CGS_Admin]: SID_Administra-
tor <Return>

.

Is the user SID_Administrator to be created as a UNIX/CGS user (y|n) ? y
<Return>

Enter the full name of the new user: SID Administrator  <Return>

.           ( list of available user groups )

In which of these groups should "SID_Administrator" be included ? [cgs]:
<Return>

.

Enter parent directory for SID_Administrator's home [Your_User_Directory] :
<Return>

.           ( list of user data )

Do you wish to create the new CGS user specified above (y|n) [y] ? <Return>

.

New password: New_Password <Return>
Re-enter new password: New_Password <Return>
NIS(YP) passwd/attributes changed on Your_CGS_Server

.

Shall the CGSI UserDotFiles be copied to the user's home ? (y|n) [y] <Re-
turn>

.           ( messages about copied files )

Create user SID_Administrator as a MDA user (y/n) [y]: <Return>

Enter Oracle Password for the new Oracle User: Password <Return>

Enter Oracle SYSTEM Password: System_Password <Return>
```

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```
Creating Oracle user : SID_Administrator
====================

Please indicate which privilege(s) should be granted :
------------------------------------------------------
    CONNECT           (default for new users)  =>  1
    CONNECT, RESOURCE, CREATE SEQUENCE         =>  2

Privilege(s) [1] : 2 <Return>

.           ( List of available tablespaces )

Please enter default tablespace name   : TS_MPS <Return>
Please enter temporary tablespace name : TEMP <Return>
.
User altered.

This procedure installs a new MDB user

Do you want to perform the installation [y]: n <Return>

Script aborted by the user.

Create user SID_Administrator as a Checkout user? (y/n) [y]: n <Return>

# exit <Return>
```

Now install the database objects of the SID Range Tool:

```
hostname:Your_CGS_Admin 2: su – SID_Administrator <Return>
Password: Password <Return>

hostname:SID_Administrator 1: cd $GSAF_HOME/mda/util/sid_range_tool <Re-
turn>
hostname:SID_Administrator 2: install_sid_range_tool <Return>
.
Table created

Disconnected from Oracle

hostname:SID_Administrator 3: exit <Return>
```

5.1.1.2.2 Create SID Range

Now you can create the MDB instance. Therefore the X–Windows environment is necessary. Logout and Login as user `SID_Administrator` on the CGS server if the CGS server supports X–Windows:

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```
Login: SID_Administrator <Return>
Password: Password <Return>
```

If your CGS server does not support X–Windows login on a graphic workstation within your network environment, then login remotely on the CGS server and redirect the DISPLAY to the local workstation:

```
Login: username <Return>
Password: Password <Return>

            ( start the X–Windows environment if not available )
% /usr/openwin/bin/openwin <Return>

% xhost Your_CGS_Server <Return>
% rlogin Your_CGS_Server –l SID_Administrator <Return>
Password: Password <Return>

hostname:SID_Administrator 4: setenv DISPLAY Workstation_Name:0.0 <Return>
```

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Then create the MDB instance and the SID Range:

```
hostname:SID_Administrator 5: cd $GSAF_HOME/mda/util/sid_range_tool <Re-
turn>
hostname:SID_Administrator 6: start_sid_range_tool <Return>
```

An SQL*FORMS application pops up. Within the fields Instance, Lower_Limit, Upper Limit enter:

```
Your_Instance_Name      Low_SID     High_SID    Description
```

Set the flag ’Element Contractor’ to ’True’ if this instance is the master MDB instance (one instance only). Then save the SID range (button ’Save’) and generate the SID range by selecting the SID range to be generated and pressing the ’Generate’ button.

After a short period of time you have to acknowledge the preparation of the files with an ’OK’ button. In the column ’Generated’ the word TRUE has to appear.

5.1.1.2.3 Create BDE SID Range

If you want to use the BDE–facility, create a BDE range. Use a unique range name, select range type **BDE** and select a unique range. For this range set the flag ’Element Contractor’ to ’False’. This range will be used temporary for BDE imports only and contains no permanent data.

5.1.1.2.4 Finish SID Range creation

Use the ’Exit’ button to leave the SID range tool. The tool disappears and the operating system prompt appears again.

Within the home directory of `SID_Administrator`, a subdirectory `mdb_installations` has been created by the SID range tool. This subdirectory is to be copied now to the `$GSAF_HOME/mda` subdirectory (as the `Your_CGS_Admin` user):

```
hostname:SID_Administrator 7: exit <Return>

          ( logout as SID_Administrator and relogin as Your_CGS_Admin on
the CGS server)
Login: Your_CGS_Admin <Return>
Password: YourPassword <Return>

hostname:Your_CGS_Admin 8: cp –r ~SID_Administrator/mdb_installations
$GSAF_HOME/mda/config <Return>
```

Important: If you have installed a special range like BDE after installing MDB you need to perform additional steps to create this range inside MDB.

```
hostname:Your_CGS_Admin 9: cd $GSAF_HOME/mda/config/mdb/install/
admin_scripts <Return>
hostname:Your_CGS_Admin 10: install_mdb_special_instance_extension

Enter OWNER NAME of the Oracle MDB account [MPS]     :  <Return>
Enter OWNER PASSWORD of the Oracle MDB account [MPS] :  <Return>

Starting installation of special purpose SID ranges

...

The SID range installation successfully finished.
```

5.1.2 MDB Data Dictionary

There are three options to install MDB data types:

1. Use the standard CGS data types. The standard CGS data types are already configured. Continue with section 5.1.3 at page 68.
2. MDB data types are delivered by the element contractor (MDB SW Delivery). Follow the Manual delivered together with the MDB SW, section ”Administration Software”. Install the MDB, then continue with section 5.1.3 at page 68.
3. You want to modify the CGS data types and/or add your own data types. Therefore install the DADI–MA Tool which is used to define a new database structure of the Mission Database. (see following sections)

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5.1.2.1 Install the DADI–MA Tool – create DADI–MA user

Before installing the DADI–MA tool, create a tablespace and a certain DADI–MA user within Oracle. You should place the dadima tablespace in the same directory as the other CGS table spaces (see the Installation Help Sheets C.4.7). You must be logged in as the CGS Administrator:

```
hostname:Your_CGS_Admin 11: sqlplus system <Return>
.
Enter password: OracleSystemPassword <Return>
.

SQL> create tablespace TS_DADI datafile 'Your_Data_Directory/ts_dadi.dbf'
<Return>
  2  size 40M default storage ( <Return>
  3  initial 5k next 5k minextents 1 maxextents 99 <Return>
  4  pctincrease 50 ) online; <Return>

Tablespace created.

SQL> grant connect, resource to NewDadimaAccount identified by DadimaPass-
word; <Return>

Grant succeeded.

SQL> alter user NewDadimaAccount default tablespace ts_dadi temporary
tablespace temp; <Return>

User altered.

SQL> alter user NewDadimaAccount quota unlimited on ts_dadi; <Return>

User altered.

SQL> exit <Return>
```

5.1.2.2 Install the DADI–MA Tool

You can install the DADI–MA tool only, if you have created the DADI–MA user before (see above). Now you can start the installation of the DADI–MA tool. The DADI–MA Tool of the actual CGS version allows to assign different Oracle data types (aggregates containing or not containing LONG or LONG RAW data types and indexes of this aggregates) to different tablespaces. If you want to use this feature, you have to manually setup this tablespaces. It is not supported by the installation scripts of CGS:

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```
hostname:Your_CGS_Admin 12: cd $GSAF_HOME/mda/util/dadi/scripts <Return>
hostname:Your_CGS_Admin 13 install_dadi <Return>

.

Do you want to install DADIMA ? [y] y

.

The file will be stored in the user HOME directory:
[/sivq_user/users/Your_CGS_Admin]

 Enter logging–file name (default: install_dadi.log) :


Enter OWNER NAME of the DADIMA account [DADIMA]     :  dadima <Return>
Enter OWNER PASSWORD of the DADIMA account [DADIMA] :  DadimaPassword <Re-
turn>

.           ( explanations to data types and tablespaces )

Tablespace for aggregates containing no LONG or LONG RAW data types
[TS_MPS]:  <Return>

Tablespace for aggregates containing LONG and LONG RAW data types
[TS_MPS]:  <Return>

Tablespace for indexes of aggregates containing no LONG and LONG RAW data
types [TS_MPS]:  <Return>

Tablespace for indexes of aggregates containing LONG and LONG RAW data
types    [TS_MPS]:  <Return>

Storage clause for LONG and LONG RAW data types INITIAL [300K]: <Return>
Storage clause for LONG and LONG RAW data types NEXT    [300K]: <Return>


The actual values are:

.           ( list of given configuration data )

Everything correct [Y/N]?  Y <Return>

.           ( installation messages )

DADIMA Installation finished.
```

5.1.2.3 Load CGS Data Types

After the installation of the DADI–MA Tool you can load the CGS standard aggregates into the new DADIMA–Tool:

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```
hostname:Your_CGS_Admin 14: cd $GSAF_HOME/mda/util/dadi/scripts <Return>
hostname:Your_CGS_Admin 15: load_cgs_standard_agg <Return>
Enter DADIMA account name[DADIMA]:  dadima <Return>
Enter DADIMA account password [DADIMA]: DadimaPassword <Return>

.           ( installation messages )

Commit complete.
```

This finishes the installation of the dadima tool. You may check your installation as described in chapter 11.3 on page 158. Refer to appl. document 2.1.7 for further use of the DADI–MA Tool.

5.1.3 Install MDB

Now create the MDB data objects. Therefore login as the CGS Administrator. The MDB installation script uses the Oracle accounts `MPS` and `MPS_EXPORT` by default to install the MDB.

5.1.3.1 Create new MDB owner

If you want to use other MDB accounts (e.g. to install more than one MDB) you have to create them by following commands (see also appl. doc. 2.1.9.):

```
hostname:Your_CGS_Admin 16: sqlplus system <Return>
.
Enter password: OracleSystemPassword <Return>
.

SQL> grant connect, resource, create sequence, create trigger to MDB_Owner
identified by Password; <Return>

SQL> alter user MDB_Owner default tablespace TS_MPS temporary tablespace
TEMP; <Return>

SQL> alter user MDB_Owner quota unlimited on TS_MPS; <Return>
SQL> grant connect, resource, create sequence to Temp_MDB_Owner identified
by Password; <Return>


SQL> alter user Temp_MDB_Owner default tablespace TS_MPS temporary table-
space TEMP; <Return>

SQL> alter user Temp_MDB_Owner quota unlimited on TS_MPS; <Return>
SQL> quit <Return>
```

5.1.3.2 Install MDB software and database structure

To install the MDB call the script `install_mdb`:

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```
hostname:Your_CGS_Admin 17: cd $GSAF_HOME/mda/config/mdb/install/
admin_scripts <Return>
hostname:Your_CGS_Admin 18: install_mdb <Return>

Do you want to perform the installation? [y] <Return>

Enter logging–File name (default: install_mdb.log): <Return>

Enter OWNER NAME of the Oracle MDB account [MPS]    : MDB_Owner <Return>
Enter OWNER PASSWORD of the Oracle MDB account [MPS] : Password <Return>

Enter OWNER NAME of the temporary Oracle MDB account [MPS_EXPORT]:
Temp_MDB_Owner <Return>
Enter OWNER PASSWORD of the temporary Oracle MDB account [MPS_EXPORT] :
Password <Return>
```

If you want to use the CGS standart MissionDataBase, use the default for next question. This is the normal case! Otherwise use the correct location for you data dictionary export files.

```
Enter dadi export directory path name
[$GSAF_HOME/mda/config/mdb/install/dadi_export] : <Return>

The following Instances can be installed :
...
            (a list of existing instances appears)
...
Enter MDB INSTANCE NAME  [..]  or  . to quit : InstanceName <Return>

...
            ( a lot of installation messages )
...
The MDB and the temporary MDB structures are installed.
The next step is the filling of the structures with data by 'initial-
ize_mdb'.
```

5.1.4 Initialize MDB

Now the MDB can be initialized:

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```
hostname:Your_CGS_Admin 19: initialize_mdb <Return>
...
...         (some messages and user input for logging file here,
...          use predefined defaults)
...
Enter OWNER NAME of the Oracle MDB account [MPS]    : MDB_Owner <Return>
Enter OWNER PASSWORD of the Oracle MDB account [MPS] : Password <Return>
...
...         (Lots of messages here)
...
The MDB is initialized.

The work with the MDB may now be started if the users are already
installed.
Otherwise users may be installed with the 'install_user' script.
```

5.1.5 Install CGS Administrator as MDB User

After initializing MDB, the CGS Administrator should be able to use the MDB. Change the permissions to `root` and call the script `install_user:`

```
hostname:Your_CGS_Admin 20: su <Return>
Password: RootPassword <Return>

# $GSAF_HOME/cgs/util/common/install_user <Return>

Enter the login name for the new CGS user [Your_CGS_Admin]: <Return>

Shall the user Your_CGS_Admin be added as MDA user? (y/n) [y]: <Return>

Enter Oracle Password for the new Oracle User: OraclePassword <Return>

Enter Oracle SYSTEM Password: OracleSystemPassword <Return>

Creating Oracle user : Your_CGS_Admin
====================

Please indicate which privilege(s) should be granted :
------------------------------------------------------
    CONNECT           (default for new users)  =>  1
    CONNECT, RESOURCE, CREATE SEQUENCE         =>  2

Privilege(s) [1] : 2 <Return>
.
.           (list of tablespaces)
.
Please enter default tablespace name   : TS_MPS <Return>
Please enter temporary tablespace name : TEMP <Return>
.
.           (some messages and user input for logging file here)
```

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```
This procedure installs a new MDB user.
...
Do you want to perform the installation ? [y]: <Return>
.
Enter OWNER NAME of the Oracle MDB account [MPS]    : MDB_Owner <Return>
Enter OWNER PASSWORD of the Oracle MDB account [MPS] : Password <Return>

Enter OWNER NAME of the temporary Oracle MDB account [MPS_EXPORT]:
Temp_MDB_Owner <Return>
Enter OWNER PASSWORD of the temporary Oracle MDB account [MPS_EXPORT] :
Password <Return>

Enter Oracle USER NAME (ops...) of new user :  OPS$Your_CGS_Admin <Return>

Enter Oracle PASSWORD of new user :  Your_CGS_AdminOraclePassword <Return>

Enter privilege CONFIGURATION_MANAGER or NORMAL_USER: CONFIGURATION_MANAGER
<Return>
.
.           ( lot of installation messages )
.
The user is successfully installed.


Create user Your_CGS_Admin as a Checkout user? (y/n) [y]: n <Return>

# exit <Return>
```

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5.1.6 Example Database

Important: In CGS 4.3.0 is no example data base supported.

To use the MDB, you have to create a system tree in the database. Either use the example database of the delivery or use a certain database which has been produced to be used at your site. Within the delivery of CGS 4.3 you get files to load a dedicated system tree and a CCU for test purposes. This will be described in the following.

Note: If you don't want to incorporate the example database into your own database, you have to deinstall the example MDB and to reinstall a new MDB (see sections 12.2.1, 12.3.1, 5.1.3 – 5.1.5).
It is also possible to use a second Oracle MDB account (instead of 'MPS') for your own database. So both databases can be used in parallel (by different users). Refer to appl. doc. 2.1.9.

The system tree database is located under `$GSAF_HOME/cgs/config` as three different *.dmp* files: `systree_eureca.dmp` represents the system tree, `ccu_eureca_demo.dmp` and `ccu_eureca_demo.dmp.scoe_data` contain some initial data. These file are linked to the home directory of the CGS Administrator. Now start `I_MDB` via the CGSI Task Selector (select `Test Preparation`). Within I_MDB, which should be empty at this time, select from the `File` command button in the top left corner of the I_MDB window the command `Import...`. A file open dialogue window will appear with a choicebox `Import Type:`, a field `Filename:` and two buttons `Execute` and `Reset`. Leave the choicebox at the choice Import. Enter `systree_eureca.dmp` in the

field `Filename:`. Then press the `Execute` button. After a while the program will print the message that the import has been successfully performed. Do the same for the initial data (enter `ccu_eureca_demo.dmp`). The import operation takes about 30 min.

5.1.7 Import UCL Libraries

The CGS system libraries must be loaded into the MDB. Therefore you have to create or to import a system tree within the Mission Database. Then create the CDU version which shall contain the system libraries and the enditems of the type UCL_SYSTEM_LIBRARY or UCL_USER_LIBRARY. The import can be done by the `File->Include` functionality of the CLS Editor. Therefore click with the right mouse button into the CLS Editor window to get the pop–up menu.

Then set the Body ID according to following table. At last compile the library using `Command->Compile` and store it with `Command->Store&Quit.`

Following libraries are located in the directory `$GSAF_HOME/cgs/config` but only the marked libraries should be imported:

Library	ID	Enditem Type	File	changed
FWDU_LIBRARY	1	UCL_SYSTEM_LIBRARY	fwdu_library_.ucl	
GROUND_LIBRARY	2	UCL_SYSTEM_LIBRARY	ground_library_.ucl	✓
TCL_LIBRARY	3	UCL_SYSTEM_LIBRARY	tcl_library_.ucl	
ONBOARD_LIBRARY	4	UCL_SYSTEM_LIBRARY	ground_commands_to_onboard_.ucl	
CPL_LIBRARY	5	UCL_SYSTEM_LIBRARY	cpl_library_.ucl	
SUPPORT_LIBRARY		UCL_USER_LIBRARY	support_library.ucl (body) support_library_.ucl (spec)	
FILE_IO_LIBRARY		UCL_USER_LIBRARY	file_io_lib.ucl (body) file_io_lib._ucl (spec)	

The marked libraries are changed from CGS V 4.2 to CGS V 4.3. After import the CDU containing the libraries should be set to state 'FROZEN' (refer to app. doc. 2.1.6 for details)

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5.2 FWDU Configuration

The Flight Window definition Utility (FWDU) is based on the commercial product *Sammi* (KINESIX Corporation).

In order to be able to run the the FWDU you need to have a run–time license (permanent serial number) for at least the Format Editor (FE) and the Run Time Environment (RTE) of *Sammi*, version 3.0.10 (Sun Solaris), valid for the machine CGS is installed on.

To install the license proceed as follows:

```
hostname:Your_CGS_Admin 21: cd $GSAF_HOME/fwdu/util/common <Return>
hostname:Your_CGS_Admin 22: fwdu_license <Return>

For the FWDU to be able to run you need to install a Sammi license
(at least for Runtime & Format Editor).

.

Do you have the serial number for Sammi Runtime & Format Editor ready?(y/n)
y <Return>

Sammi 3.0.10 serial number verification and installation.
Enter your serial number : .... >  xxxx-xxx-xx-xx-xx-xx-xx-xx-xx <Re-
turn>

Writing license to '.s2_license.<id>' for package <n>

Installation of Sammi license for FWDU: Ready
```

Depending on the type of license key used <*id*> above will either be ".<*hostname*>" for the permanent or ".*dat*" for the preliminary 30 days license.

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6 CHECKOUT CONFIGURATION

The CGS checkout software has to be configured now. It is necessary that the system consists at least of the CGS sun server and one HP test node. The first Checkout configuration step is the generation of a minimal system topology table.

6.1 System Topology Table

You are still logged in as the CGS Administrator. Execute the script `gen_system_topology` on the CGS server to create a the system topology table. Refer to the CGS user manual [appl. doc. 2.1.6] to determine your personal system topology table. Use the hostname of the test node which is foreseen to be the Master Test Processor *(Your_MTP)*.

```
hostname:Your_CGS_Admin 23: cd $GSAF_HOME/cgs/util/common <Return>
hostname:Your_CGS_Admin 24: gen_system_topology <Return>
gen_system_topology: Generates the system topology table

What is your customer name? YourInstallationId<Return>

Which host shall be the database server for DBS ? (hostname) <Return>

How many DBS processes shall run on hostname ? (3) <Return>

Which host shall be the first TES test node and the NTP Master: Your_MTP
<Return>

Your system topology table will contain the following entries
(Refer to the installation manual if in doubt)

SITE: YourName

hostname: DBS_01
hostname: DBS_02
hostname: DBS_03
Your_MTP: TES_01

Is this correct? (y/n): y <Return>

To add CGS clients, use the command ”change_system_topology” later
```

All other nodes of the CGS installation will be added later during the installation process of the client workstations and HP test nodes.

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6.2 Start CGS Daemon

At this installation point you should start the CGS daemon. The CGS daemon starts and stops all other CGS process on all CGS hosts.

Important: For the correct work of the daemon it is necessary, that the CGS administration user is able to switch between each host via `rsh` without entering a password. Therefore setup the file `.rhost` to allow access for the CGS administration user on all CGS hosts. For security reasons we recommend to define a `netgroup` which contains all CGS hosts. During a normal installation this is already done in section 4.4.3. Start the CGS daemon on CGS server only.

Start the daemon with the command `start_cgs_daemon`. If you get error messages, use the option `-f` for `start_cgs_daemon`:

```
hostname:Your_CGS_Admin 25: $GSAF_HOME/cgs/util/common/start_cgs_daemon
<Return>
```

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6.3 Install TRDB

At next you have to install the DBS environment in Oracle. Note the comment at the beginning of the script: Be sure that no process is connected to the Oracle database and Central DBS and all applications using the TRDB have to be stopped. Otherwise the script will exit:

```
hostname:Your_CGS_Admin 26: cd $GSAF_HOME/dbs/util/common <Return>
hostname:Your_CGS_Admin 27: install_trdb <Return>
.
.
Before running this script, be sure that no process is connected to the
Oracle database
Central DBS + all applications using the TRDB have to be stopped

Do you agree to proceed (YES/NO) ? YES <Return>
.
.     (Information about the installation options)
.
You can either execute Step 1, Step 2 or all.

Please enter (1 / 2 / ALL / EXIT ) :  ALL <Return>
.
.     (some information)
```

Now enter passwords for `Oracle SYSTEM`, `Oracle SYS` and `ORACLE DBA` user:

```
Please enter the Oracle SYSTEM password:  OracleSystemPasswd <Return>

Please enter the Oracle SYS password:  OracleSysPasswd <Return>

Now the Unix user has to be switched to the ORACLE DBA ...
Please enter the password for the unix user of ORACLE DBA
                              (User: YourOracleOwner)
Password: Oracle_Password <Return>
```

If you re–install the TRDB, you need to define the size of the event table space in your Oracle installation:

```
In EVENT_SPACE all events coming from different sessions are stored by DBS.

Enter size of the EVENT_SPACE table space [100M]: <Return>

            ( lots of messages, ignore messages which report existing
              users or synonyms)
.
TRDB Installation complete.
```

This ends the TRDB installation.

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6.4 Install CGS Administrator as Checkout User

If the CGS Administrator shall be able to use the CGS Checkout System, he must be introduced via the global installation script `install_user` as Checkout User. If you install the user as checkout user, your CGS environment will be overwritten (especially the file `.task_list`). Note that the CGS Administrator is already known as UNIX, Oracle and MDB user.

```
hostname:Your_CGS_Admin 28: su <Return>
Password: RootPassword <Return>
# $GSAF_HOME/cgs/util/common/install_user <Return>

Enter the login name for the new CGS user [Your_CGS_Admin]: <Return>

Shall the user Your_CGS_Admin be added as MDA user? (y/n) [y]: n <Return>

Shall the user Your_CGS_Admin be added as Checkout user? (y/n) [y]: <Re-
turn>
.
.           ( some messages )
.
install_user: Ready
# exit <Return>

hostname:Your_CGS_Admin 29: cp $GSAF_HOME/cgsi/config/UserDotFiles/
admin_task_list ~/.task_list <Return>
```

At last you **may** edit the file `rootmenu.User_Tools`, which is located in the `.user` subdirectory. This file defines the OpenWindows menu below the menu item '`User Tools`'.

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6.5 Modify Checkout Configuration Files

6.5.1 User Profile

You have to modify the CGS user profile file. It is located in the directory `$GSAF_HOME/cgs/config`. Use the delivered file `USER_PROFILES` or copy the example file `USER_PROFILES.example` to `USER_PROFILES` and modify it according to your own environment. At this installation point you should set the user profile of the CGS Administrator.

```
hostname:Your_CGS_Admin 30: vi $GSAF_HOME/cgs/config/USER_PROFILES <Return>

.           ( syntax description )

      NAME=Your_CGS_Admin
      PRIV=IS_TEST_CONDUCTOR
      HCI_SCREEN_SETUP=basic

            ( Save and Exit vi )
:wq <Return>
```

6.5.2 DBS Printer Configuration

As CGS Administrator, modify `$GSAF_HOME/dbs/user_env/dbs_cshrc` as described below:

- The environment variable VICOS_PRINT_SERVER shall contain the hostname of the CGS Printer Server
- The environment variables VICOS_LASER_1, VICOS_LASER_2 and FA_SAS_PRINTER shall contain the logical names of the configured printers. The variables can contain the same printer name if only one printer is available.

```
hostname:Your_CGS_Admin 31: cd $GSAF_HOME/dbs/user_env <Return>
hostname:Your_CGS_Admin 32: vi dbs_cshrc <Return>

setenv VICOS_PRINT_SERVER  Your_Print_Server
.
setenv VICOS_LASER_1 Your_Printer_Name1
.
setenv VICOS_LASER_2 Your_Printer_Name2
.
setenv FA_SAS_PRINTER Your_Printer_Name3
.
            ( Save and Exit vi )
:wq <Return>
```

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6.5.3 TRDB User Privileges

The `file $GSAF_HOME/dbs/config/dbs_privilege_file.def` implements a mapping between the user profile and the TRDB operations which are allowed. A user profile can access three areas of privileges, which can be combined. These three areas are:

- The DBS concept of TRDB_ADMIN : only the TRDB_ADMIN user can perform the operations of archiving, retrieving sessions and data, export and import.
- The DBS concept of TRDB_MANAGER : only the TRDB_MANAGER user can perform all the operations of deletion without having the ownership of the data. Otherwise the operations of deletion require only the ownership of the data, but no specific privileges.
- TRDB_ADMIN and TRDB_MANAGER can open and close execution sessions.

All the others operations not mentioned above are accessible by all the type of user (TRDB_ADMIN, TRDB_MANAGER and TRDB_USER).

The following mapping is recommended :

```
hostname:Your_CGS_Admin 33: cd $GSAF_HOME/dbs/config <Return>
hostname:Your_CGS_Admin 34: vi dbs_privilege_file.def <Return>

.           ( syntax description )

CONDUCT_USER_PROFILE : TRDB_ADMIN,TRDB_MANAGER
OPERATO_USER_PROFILE : TRDB_ADMIN,TRDB_USER
EVALUAT_USER_PROFILE : TRDB_USER
.
            ( Save and Exit vi )
:wq <Return>
```

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6.6 FA_SAS Installation

The Final Archiving Special Application Software (FA SAS) enables the storage of test data on an optical device. This must be connected to the CGS server. Since optical devices are different and have to be purchased locally, the installation cannot be carried out in advance. Therefore some installation steps must be performed after system administration has connected the device to the CGS server.

Note: The MO media has to be formatted, a filesystem has to be installed on the media, but it is mandatory, that the filesystem is **not** mounted. The media must be owned by the CGS administrator.

Collect the number of optical devices and the partition names from your system administration and incorporate it in the files `dbs_configuration_file.def` and `fa_sas_configuration_file.def`. Within the second file you have to define both FA devices but you can use the same device name, if only one FA device is available.

Moreover, check the correct setup of the DBS owner in both files:

```
hostname:Your_CGS_Admin 35: cd $GSAF_HOME/dbs/config <Return>
hostname:Your_CGS_Admin 36: vi dbs_configuration_file.def <Return>

.           ( some explanation )

EVENT_TABLE_OWNER 3 "OPS$Your_CGS_Admin."            ( should be set already )
.
NUMBER_OF_FA_DRIVE_AVAILABLE 1 1               ( 1 or 2 )
.
            ( Save and Exit vi )
:wq <Return>

hostname:Your_CGS_Admin 37: vi fa_sas_configuration_file.def <Return>

.           ( some explanation )
.
FA_DEVICE_FILENAME1 3 "/dev/dsk/Partition_1"    (e.g. /dev/dsk/c1t3d0s2)
FA_DEVICE_FILENAME2 3 "/dev/dsk/Partition_2"    (e.g. /dev/dsk/c1t5d0s2)
.
DBS_OWNER_NAME 3  "Your_CGS_Admin"                   ( should be set already )
.
            ( Save and Exit vi )
:wq <Return>
```

At last introduce the FA–SAS to the System Topology Table. Add the SAS '**FA_SAS**' with a unique port number between 7600 and 7700 to the CGS server (see section 10.8.3).

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6.7 NTP Configuration

6.7.1 Select the NTP Master

CGS uses the host of the database server as NTP server by default. (The NTP server is the server all other clients are synchronized to.) This can be changed by the CGS Administrator by adapting the file `$GSAF_HOME/cgs/config/cgs_startup.cfg`. Edit the line `TSP_MASTER = DEFAULT` and replace 'DEFAULT' by the host name of your NTP master host:

```
hostname:Your_CGS_Admin 38: vi $GSAF_HOME/cgs/config/cgs_startup.cfg <Re-
turn>

            ( replace 'DEFAULT' by the name of the NTP Server :
.
.     NTP_SERVER = Your_NTP
.
              Save and Exit vi )
:wq <Return>
```

6.7.2 Configure external time distribution

If you want to use an external Master Time Unit (MTU) or synchronize the CGS system to a higher level time distribution in the network, then create a new NTP configuration file `$GSAF_HOME/tss/config/server_configuration.` Perform this on the CGS server as the CGS administration user:

```
hostname:Your_CGS_Admin 39: cd $GSAF_HOME/tss/config<Return>

hostname:Your_CGS_Admin 40: vi server_configuration<Return>

            ( Enter NTP server definitions as follows:

      # CGS NTP Configuration of the CGS NTP Master Host
      server IP_Address_of_MTU
      driftfile /etc/server.drift

              Save and Exit vi )
:wq <Return>
```

6.7.3 Start NTP Service

Login as `root` on the CGS server and activate the NTP software:

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```
hostname:Your_CGS_Admin 41: su <Return>
Password: Password <Return>

# cd $GSAF_HOME/cgs/bin/common <Return>
# ./process_startup NTP sun5 <Return>
.
netntprc Finished

# exit<Return>
```

The NTP software will find the NTP server to synchronize to only, if you have installed the NTP–software and start the NTP–process on server before, or the CGS server is the NTP server too (default).

6.7.4 Time Synchronization of CGS environment (boot sequence)

This section describe the boot sequence for time synchronization of your complete CGS environment. For correct time synchronization you need to start your time software on MTP server first, than you can start time software on all other hosts by booting.

6.7.4.1 Default Installation

Your NTP server must be rebooted first, if it available again, you can reboot all other clients.

```
1) reboot NTP server

      wait 5 minutes

2) reboot clients
```

6.7.4.2 Non Default Installation

If your NTP server is not the same host as your CGS server, you need to do follow:

```
1) reboot CGS server
2) reboot NTP server

      wait 5 minutes

3) reboot CGS server
4) reboot clients
```

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6.8 CSS Configuration

The simulation software CSS is part of the CGS delivery. CSS deliver a default file $GSAF_HOME/css/config/engineering_units with the default units in it. If you define new units via DADI-MA–Tool, CSS has to read the table of engineering units from the Mission Database again to configure CSS tools without database access. Execute the script $GSAF_HOME/css/bin/sun5/css_read_db_eng_units as the CGS administration user:

```
hostname:Your_CGS_Admin 42:$GSAF_HOME/css/bin/
sun5/css_read_db_eng_units<Return>
```

Additional the Ada environment can be changed within the file $GSAF_HOME/css/config/css_configuration. It was already defined during the CGS installation (section 4.4.3.2) but may be set now to the simulation node.

This ends the CSS configuration.

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6.9 Add CGS Processes on the CGS Server

If the CGS server does provide a graphical display it can also perform tasks which are normally assigned to a CGS client workstation. To enable HCI, TSCV and/or TEV processes on the CGS server expand the system topology table as described in chapter 10.8.1 on page 145.

6.10 Installation of further CGS Hosts

After the installation of the CGS server all other CGS hosts can be installed.

1. Install the Master Test Processor (see section 10.4 starting at page 125)
2. Install all other Test Nodes (see section 10.4 starting at page 125)
3. Install all user workstations (see section 10.1 starting at page 110)
4. Install the Force Simulation Node according to section 10.3 (at page 124)

Further CGS hosts can be added or removed at later time as described in chapter 10 of this installation manual.

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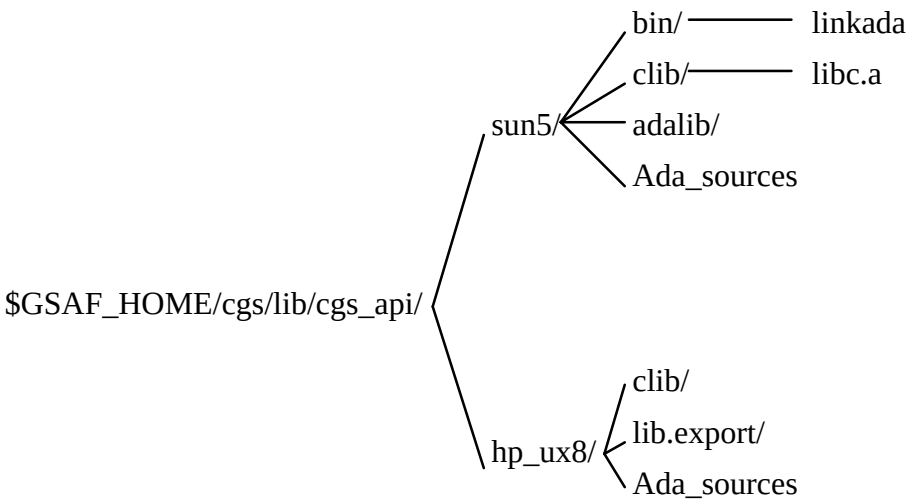
7 CGS API Libraries

7.1 General

Two CGS API libraries exist, one for SunOS (sun5) and one for HP–UX (hp_ux8):



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CGS API sun5 library :

- bin
  the bin directory contains the link script linkada, which has to be used for linking Oracle applications.
  e.g.: linkada ....
- clib
  the clib directory contains the archive libc.a, which has to be referenced in any link statements.
- adalib
  the adalib directory is the SunAda library, which contains all compiled units required for the DBS API, TEV API and TES API (on Sun). This library has to be referenced in the ADAPATH by all SunAda libraries, in which SAS shall be compiled.
- Ada_sources
  this file is a list of all Ada source file versions, which have been used for building the above mentioned adalib SunAda library.

CGS API hp_ux8 library :

- clib
  the clib directory contains the archive libc.a, which has to be referenced in any link statements.
- lib.export
  this directory is a Alsys Ada library export set. This export set has to be imported into a Alsys family at installation site.
- Ada_sources
  this file is a list of all Ada source file versions, which have been used for building the above mentioned lib.export Alsys Ada library export set.

7.2 Installation of the CGS API Libraries

If the CGS API libraries were not installed during the CGS installation they are simply to be copied from the delivery media to the directory `$GSAF_HOME/cgs/lib`. Therefore login as the CGS Administrator. Then insert the CGS delivery CD–ROM into the CD–ROM. The CD is mounted automatically to `/cdrom/cgs.` Then copy the files:

```
hostname:Your_CGS_Admin 43: cd /cdrom/cgs/cgs/lib <Return>
OR
hostname:Your_CGS_Admin 44: cd /cdrom/cdrom0/cgs/lib <Return>
hostname:Your_CGS_Admin 45: cp –r cgs_api $GSAF_HOME/cgs/lib <Return>
```

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7.3 Usage of the CGS API Sun5 library

Before you can use the CGS API sun5 library, you have to compile the library in your environment. You have to do the follow:

- compile library by using delivered Makefile as *Your_CGS_Admin*
  In this case you need a ada compiler in your environment. First include your compiler location in your search path and set the correct environment variables..

```
hostname:Your_CGS_Admin 46: more /etc/VADS
SELF_TARGET:6.2:/vobsun2_tools1/vads/self: # Sun Solaris 2.x–host
                  in this case /vobsun2_tools1/vads is <compiler–path>
hostname:Your_CGS_Admin 47: setenv ADA_HOME <compiler–path>
                  third parameter from /etc/VADS without self
hostname:Your_CGS_Admin 48: cd $GSAF_HOME/cgs/lib/cgs_api/sun5
hostname:Your_CGS_Admin 49: set path = ( $path $ADA_HOME/bin )
hostname:Your_CGS_Admin 50: setenv LM_LICENSE_FILE "$LM_LICENSE_FILE
$ADA_HOME/license/license.dat"
hostname:Your_CGS_Admin 51: setenv POSIX_LIBRARY $ADA_HOME/self/posix
hostname:Your_CGS_Admin 52: setenv ORACLE_LIBRARY $ORACLE_HOME/precomp/
pubsrc/adalib
```

- If the library exist from former installations, remove it.

```
hostname:Your_CGS_Admin 53: a.rmlib sun_adalib
hostname:Your_CGS_Admin 54: rm –Rf sun_adalib
```

- Now install the library by using Makefile.

```
hostname:Your_CGS_Admin 55:  make –f Makefile.sun
a.mklib sun_adalib
...
compiling instantiations in sun_adalib
```

The CGS API sun5 library has not to be installed anymore. Now it is ready for use. To compile and to link DBS SAS, TEV SAS and TES SAS do the following:

- set environment variables

```
hostname:User 56: more /etc/VADS
SELF_TARGET:6.2:/vobsun2_tools1/vads/self: # Sun Solaris 2.x–host
                  in this case /vobsun2_tools1/vads is <compiler–path>
hostname:User 57: setenv ADA_HOME <compiler–path>
                  third parameter from /etc/VADS without self
hostname:User 58: set path = ( $path $ADA_HOME/bin )
hostname:User 59: setenv LM_LICENSE_FILE "$LM_LICENSE_FILE $ADA_HOME/li-
cense/license.dat"
```

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- creation of your own Ada libraries
  For creation of SunAda libraries, in which you want to compile your SAS, use the CGS API sun5 Ada library as parent one:

```
hostname:User 60: cd Location_of_Your_libraries
hostname:User 61: a.mklib <Your_library> $GSAF_HOME/cgs/lib/cgs_api/
sun5/sun_adalib
hostname:User 62: cd <Your_library>
hostname:User 63: cp Your_Sun_Sources/*.a .
hostname:User 64: a.make –v –f *.a
finding dependents of: <source.a>
      ...
body of <procedure–name>
```

- linking your SAS executables
  For linking executables in your own Ada libraries use:

```
hostname:User 65: $GSAF_HOME/cgs/lib/cgs_api/sun5/bin/linkada <procedure–
name> –o <executable–name> $GSAF_HOME/cgs/lib/cgs_api/sun5/clib/libc.a [–L
Your_Lib]
linkada: Linking ADA–Program ...(date)
      ...
linkada: Done (date)
```

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7.4 Usage of the CGS API HP_UX8 Library

Before you can use the CGS API hp_ux8 library, you have to install the library in your environment. You have to do the following:

- set environment variables

```
hostname:Your_CGS_Admin 66: setenv ALSYCOMP_DIR <path>
hostname:Your_CGS_Admin 67: setenv ADA_PATH $ALSYCOMP_DIR
hostname:Your_CGS_Admin 68: setenv POSIX_LIBRARY $ALSYCOMP_DIR/posix/posix-lib
hostname:Your_CGS_Admin 69: setenv LM_LICENSE_FILE $ALSYCOMP_DIR/flexlm/license.dat
hostname:Your_CGS_Admin 70: set path = ($path $ALSYCOMP_DIR)
```

- import delivered Alsys Ada library export set
  The Alsys Ada library export set `lib.export` has to be imported to an Alsys family.
  If you use the installation family, the new imported library can be referenced from all Alsys Ada libraries in any Alsys Ada family.
  If you use another Alsys Ada family (e.g.: *MY_FAM*), then the new imported library can only be referenced from other Alsys Ada libraries in the same Alsys Ada family.

```
hostname:Your_CGS_Admin 71:ada.mkfam CGS_API
hostname:Your_CGS_Admin 72:ada.lmgr CGS_API
```

- check your installation library

```
Library_Manager.OTHER (FAMILY => INSTALLATION)
Library_Manager.list
```

```
If the following entry is not listed :
      <date> $ALSYCOMP_DIR/posix/posixlib
            'V5.5.4 HP700 Posix P1003.5/D9'
then
```

```
EITHER

import this library in the INSTALLATION family (as correct user) :
Library_Manager.copy
FROM =>     $ALSYCOMP_DIR/Posix9
TO =>       posixlib
MODE =>     IMPORT
Library_Manager.OTHER (FAMILY => CGS_API)
```

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```
OR

import this library in your family :
Library_Manager.OTHER (FAMILY => CGS_API)
Library_Manager.copy
FROM =>     $ALSYCOMP_DIR/Posix9
TO =>       posixlib
MODE =>     IMPORT
```

- import cgs lib

```
Library_Manager.copy
FROM=>      $GSAF_HOME/cgs/lib/cgs_api/hp_ux8/lib.export
TO=>        CGS_LIB
MODE=>      IMPORT
```

- creation of your own Ada libraries
  For creation of Alsys Ada libraries, in which you want to compile your SAS, use the new Alsys library as parent one, which has been created from the import of the Alsys export set `lib.export`.

```
Library_Manager.new PARENT => CGS_LIB
LIBRARY=>   Your_Lib
Library_Manager.q
```

Now it is ready for use. To compile and to link TES SAS do the following:

- set environment variables

```
hostname:User 73: setenv ALSYCOMP_DIR <path>
hostname:User 74: setenv ADA_PATH $ALSYCOMP_DIR
hostname:User 75: setenv POSIX_LIBRARY $ALSYCOMP_DIR/posix/posixlib
hostname:User 76: setenv LM_LICENSE_FILE $ALSYCOMP_DIR/flexlm/license.dat
hostname:User 77: set path = ($path $ALSYCOMP_DIR)
```

- linking your SAS executables
  For linking executables in your own Ada libraries use the BIND – command of the Alsys adacli environment. Include the delivered archive $GSAF_HOME/cgs/lib/cgs_api/hp_ux8/clib/libc.a in the SEARCH directive of the BIND command.

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```
hostname:User 78: cp Your_HP_Sources/*.a Your_Lib/
hostname:User 79: adacli
Alsys Ada V5.5.4
Copyright (C) Alsys, 1985, 1991. All rights reserved.
Ada.compile
SOURCE =>   Your_Lib/source.a
LIBRARY =>  Your_Lib
Ada.bind sas Your_Lib task=120 SEARCH="$GSAF_HOME/cgs/lib/cgs_api/
hp_ux8/clib/libc.a $ALSYCOMP_DIR/libadaposix.a"
      ...
Ada.q
```

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8 SDE CONFIGURATION

8.1 SDE Installation Advices

8.1.1 General

The SDE shall be installed following the Installation and Administration Manual delivered with the SDE and the Installation manuals delivered with the commercial tools integrated into the SDE.

Regarding a CGS configuration which comprises the SW Development Environment (SDE) as provided by CRI/DK, at least 2 servers are necessary, one running the operating system SunOS 5.4, on which the SDE has to be installed, and one running server running the Solaris 5.5 operating system with the CGS products.

Note, in this chapter the first one is called SDE site, where the second is called CGS site.

In order to run CGS together with the SDE the following topics shall be considered for the SDE installation :

- The SDE installation partition shall be mounted at the CGS sites.
- At the CGS sites an empty SDE HOME directory shall be created.
- Symbolic links shall be created from the directories beneath the SDE HOME directory at the SDE site inside the empty SDE HOME directory at the CGS site
- The SDE Data Base Administrator user shall be visible at both sites. If this user, which own all SDE data, is installed on another partition, this must be mounted as well.
- The GSAF HOME partition must be mounted at the SDE site in order to ensure proper login of CGS users.
- The CGS users, at least the ones who are accessing the SDE, must be visible at both sites.
- The directory '**user_env**' shall be created beneath the SDE HOME directory, visible at both sites. This directory comprises at least the SDE specific 'cshrc' file (see below).

The following Figure 3 illustrates the a.m. cross–mounts and links to be established.

8.1.2 Tool / Compiler Integration

In case of tools and compilers being installed on another server and which shall be integrated into the SDE, it is necessary that also on this server knows the environment of the SDE users and of the SDE and SDE data base, by means of mounting the GSAF HOME and SDE HOME partitions on that server.

On the other hand the partition, where the to be integrated compilers and tools are placed have to be mounted at the SDE site.

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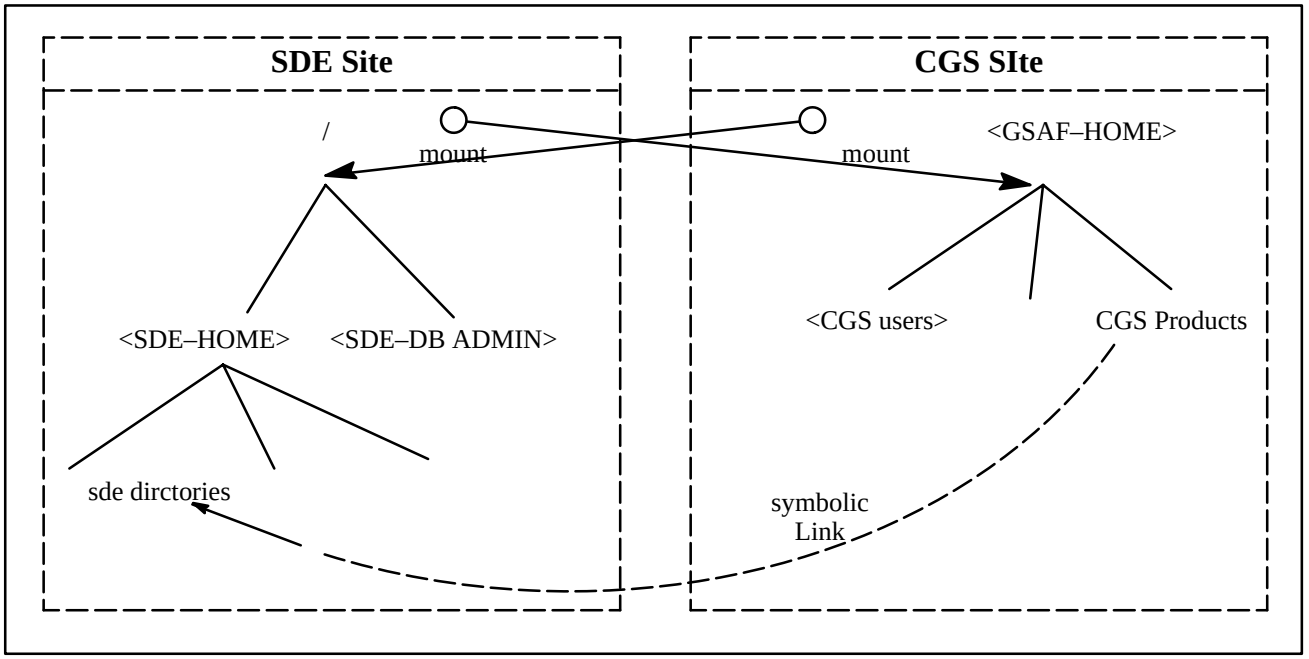

Figure 3. SDE – CGS installation

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8.2 SDE specific 'cshrc' file

After installation of the SDE a SDE specific cshrc file has to be created. This file will specify the environment used for the SDE and is used to run the SW Entity Support (SWES) software. The directory $GSAF_HOME/sde/user_env contains a demonstration cshrc file which must be adadpted to your local environment. The script $GSAF_HOME/sde/user_env/cshrc is sourced automatically by the central CGS cshrc script `$GSAF_HOME/cgsi/user_env/Cshrc`.

This cshrc file shall also include the paths and environment variables used for the integration of other tools via the Generic tool interface and of the development environments used via the Life*CODE integration.

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9 UPDATE PROCEDURE

9.1 Overview

This section describes how to update from CGS Version 4.2 to CGS version 4.3. This update requires no update of the operating system and small updates of some parts of commercial baseline of CGS only.

The S/W update is split into the following steps:

- Save customer dependent configuration and data files
- Deinstall old CGS installation
- Install the new commercial baseline (patches)
- Run CGS installation procedure
- Configure CGS

Important: CGS Version 4.3 does not support an update procedure from the CGS software older than version 4.2. You must have an installed CGS Version 4.2.

For verification of a CGS installation and in order to provide a minimum data set which is required to run the CGS Checkout Software, a set of predefined data must be imported into the MDB. This data are part of the CGS delivery.

During your work with CGS in the past, you have possibly produced same user data in the MDB, so that your present MDB consists of a mixture of delivered and user produced data.

The following options are selectable:

- Keep present MDB contents, do not use CGS delivered initial contents (demo data) (MDB update option A)
- Keep present MDB contents, use CGS delivered initial contents (demo data) (MDB update option B)
- Do not keep present MDB contents, use CGS delivered initial contents (demo data) (MDB update option C)

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9.2 Save Configuration and Data Files

In follow your backup directory is called `YourCGS_SAVE` with the environment variable `$CGS_SAVE`. Login as user `Your_CGS_Admin,` insert the new CGS delivery CDROM into the CD–ROM drive. Before backup started, select the menu item `'CGS Shutdown'` within the 'CGS Task Selector' to terminate the currently running CGS processes.

```
Login: Your_CGS_Admin <Return>
Password: YourPassword <Return>
hostname:Your_CGS_Admin 1:  cd /cdrom/cdrom0
```

9.2.1 Save Configuration Software

Start the backup script. If you in doubt which data are to be save, save all. This backup data will not restored automaticly.

```
hostname:Your_CGS_Admin 2: ./cgs/util/common/saveCGSconf

  The variable "CGS_SAVE" is not set
  Please enter the path to your backup destination [YourGSAF_HOME/
CGS_SAVE]: YourCGS_SAVE <Return>
```

Important: Choose **`YourCGS_SAVE`** in a "save" directory (not below `$GSAF_HOME`) to prevent data loss after deinstallation.

```
        Export Configuration Data
        =========================


  The following commands will be executed.
  Please check the questions carefully.
```

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9.2.2 MDA SID Ranges

On the element contractor side, the content of the SID Range Tool must be exported. If your role is element contractor answer y, otherwise answer n:

```
          SID range
          ---------

  Do you want to save the sid ranges created by SID range tool ? y <Return>
  Please enter the name of your SID administrator [sidadmin]: YourSIDAdmin
<Return>
  Password: Password <Return>
..
exp_sid_range_tool_data started
.
.           ( some messages )
.
exp_sid_range_tool_data finished

The exported data is stored in file:
  --> YourSIDAdminHome/sid_ranges.dmp
```

9.2.3 DADI–MA Tool Contents

You have to perform this upgrade only, if you have defined your own database types in CGS Version 4.2 and you want to use this data types in future.

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```
DADI–MA
–––––––
```

Do you want to save the DADI–MA data created by DADI–MA tool ? ***y*** **<Return>**

```
Enter OWNER NAME of the DADIMA account [DADIMA]     : YourDadimaAccount
<Return>
Enter OWNER PASSWORD of the DADIMA account [DADIMA] : DadimaPassword <Re-
turn>

 Enter directory name for the datafile
[YourGSAF_HOME/mda/util/dadi/scripts] :   <Return>
.
.           ( some export messages )
.
Export terminated successfully without warnings.

exp_dadi_data finished

The exported dadi data is stored in file:
  –> YourGSAF_HOME/dadi_data.dmp
```

9.2.4 TRDB Contents

Export the TRDB contents:

```
TRDB
––––
```

Do you want to save the TRDB content ? ***y*** **<Return>**

```
.           ( export messages )

Export terminated successfully without warnings.
done.
.
.           ( outputs of tar command )

done.

T(est)R(esult)D(ata)B(ase) content is exported into YourCGS_SAVE/trdb.con-
tent.tar.Z
```

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9.2.5 MDB Users

If you have chosen MDB update option A or B (keep MDB data), you should note the list of all current installed MDB users and their permissions:

```
MDB user
--------


  Do you want to save the MDB user ? y <Return>
This procedure lists all users that have access to the MDB
Enter oracle user name for the oracle installation account of the MDB [MPS]
: MDB_Owner <Return>
Enter oracle password for the oracle installation account of the MDB [MPS]
: Password <Return>
.
Here is the list of the currently installed users:
.
.           (list of MDB users and permissions)
```

Important: If you want to keep your MDB user configuration, please write down the installed users and their permissions or store the output of the command to be able to reinstall the MDB users.

9.2.6 MDB Contents

If you have chosen MDB update option A or B (keep MDB data), you have to export the MDB:

```
MDB
---


  Do you want to save the MDB content ? y <Return>
_____________________________________________________________________

This script will export tables of an ORACLE MDB–account
_____________________________________________________________________

Do you wish to start the export [y] ?  y


Enter OWNER NAME of the Oracle MDB account [MPS]     :  MDB_Owner <Return>
Enter OWNER PASSWORD of the Oracle MDB account [MPS] :  Password <Return>
```

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```
Enter export file name [Your_CGS_Admin_HOME/export_MDB.MDB_Owner.date] :
<Return>

 Creating MDB export parameter files for account MDB_Owner
... Finished

 Splitting MDB parameter file because of ORACLE restrictions to size ...
... Finished
Splitted into 5 file(s)

.           ( export messages )

... Finished
Stored in Your_CGS_Admin_HOME/export_MDB.MDB_Owner.date.0
          ...
          Your_CGS_Admin_HOME/export_MDB.MDB_Owner.date.4

... Finished export
```

Important: If your MDB contains delivered data types (MDB SW delivery) this data types must be saved too. Follow the MDB SW Installation Manual delivered with this data types, section ”Administration Software”. Copy the created files to the save directory.

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9.2.7 Copy data into Backup Directory

```
          Save Checkout Configuration Files
          =================================


  The following commands will be executed.
  Please check the results carefully.


  > cp YourGSAF_HOME/cgs/config/SYSTEM_TOPOLOGY_TABLE YourCGS_SAVE
  ...
  > cp cgs/config/cgs.globalconfig YourCGS_SAVE/customconfig/



  Backup finished successful.
```

9.2.8 Backup the CGS server

At this point you should stop Oracle and backup the complete CGS and Oracle server including the user directories. It is recommended to create an additional backup of the just created backup directory $CGS_SAVE which should also include Add–on’s of your CGS installation (e.g. front end software, extensions of the database, special application software etc.) and user data which must be used on the new CGS installation. This second backup tape allows an easier restore of the current configuration.

The example below shows how to save the backup directory to the local default tape drive:

```
hostname:Your_CGS_Admin 3: cd $GSAF_HOME <Return>
hostname:Your_CGS_Admin 4: tar cv $CGS_SAVE <Return>
```

The next example shows how to save the $GSAF_HOME directory (and other) to the local default tape drive:

```
hostname:Your_CGS_Admin 5: tar $GSAF_HOME ADD_on_Directories <Return>
```

Remove CD from the drive:

```
hostname:Your_CGS_Admin 6: eject <Return>
```

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9.3 Deinstallation Procedure

Now the CGS installation can be deleted. It may be useful to take over the user home directories.

Deinstall now the marked products only:

- MDB user (12.2.1 on page 166) ✓
- CGS user (10.7 on page 141)
- MDB (12.3.1 on page 167) ✓
- DADIMA tool (12.3.2 on page 167)
- SID range tool (12.3.3 on page 168)
- TRDB (12.3.4 on page 169)
- all CGS clients (10.2 on page 120)
  - deinstall_cgsi (10.2.1 on page 120) ✓
- all HP testnodes (10.5 on page 133)
  - deinstall_cgsi (10.5.2 on page 134) ✓
- GSAF (12.5 on page 172) ✓
- CGSI server (12.6 on page 173)

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At least remove all files below $GSAF_HOME:

Important: Do not remove all, if your $GSAF_HOME directory is home directory of Your_CGS_Admin too or your tablespace files (oracle datafiles) are located below $GSAF_HOME.

```
hostname:Your_CGS_Admin 7: cd $GSAF_HOME <Return>
hostname:Your_CGS_Admin 8: su <Return>
# pwd
# /bin/rm –rf *
# exit
hostname:Your_CGS_Admin 9: ls –al <Return>
```

Here you can cleanup your user directories and remove all data garbage.

9.4 Installation of the Operating System

Important: The operating systems of all CGS platforms are not changed!

The operating system of your CGS and Oracle Server and all other client workstations are not to be updated. Possibly the mount points and hostnames must be changed if your hostnames or directory names will be changed.

The operating system of all HP–systems are not to be updated. Possibly the mount points and hostnames must be changed if your hostnames or directory names will be changed.

The operating system of a FORCE Simulation Node is not to be updated. The Simulation Node must be available, if CSS shall be installed. Possibly the mount points and hostnames must be changed if your hostnames or directory names will be changed.

9.5 Installation of Commercial Tools

Important: The versions of the commercial tools are not changed!

Verify the correct installation of required patches:

- Solaris 2.6 recommended Y2K patch set plus recommended patches
- HPUX 10.20 recommended Y2K patch set plus recommended patches
- Oracle patch set 4 (see 4.3.1.9.1 on page 42)
- DataViews patch 052 (see 4.3.2.1 on page 46)

9.6 CGS V4.3 Installation Procedure

9.6.1 Change system configuration

Change the /etc/system file on Oracle Server as described in section 4.1.5 on page 19.

9.6.2 Change CGS NIS map

Before you start the CGS installation, you need to change the name of CGS NIS map auto_cgs to **`autocgs`** (see 4.1.6.3 on page 24 too). Login as `root` on the CGS server and perform follow steps:

```
Login: root <Return>
Password: RootPassword <Return>
```

Change the filename:

```
# cd Your_NIS_PW_Directory <Return>
# mv auto_cgs autocgs <Return>
```

Change in the file **`autocgs`** all entries like:

- ***`Your_TN_BASE`***/*hostname* –rw,intr,soft *hostname*:/***`Your_TN_BASE`***/*hostname*

in:

- ***`Your_TN_BASE`***/*hostname* –rw,intr,soft *hostname*:/**export**/***`Your_TN_BASE`***/*hostname*

`Your_TN_BASE` you specified during install_cgsi is by default /testnode.

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```
# vi autocgs <Return>
...
            ( changes – see above )

            ( save and exit vi )
:wq <Return>
```

Replace in /var/yp/Makefile all auto.cgs and auto_cgs tags by **autocgs**:

```
# cd /var/yp <Return>
# cp Makefile Makefile.orig <Return>
# vi Makefile <Return>

      ( change all auto.cgs and auto_cgs strings by autocgs )

      ( Save and exit vi )

:wq! <Return>



            ( export NIS maps )
# /usr/ccs/bin/make <Return>
.
updated autocgs

pushed autocgs



            ( activate the new map )
# vi Your_NIS_DIR/auto_master <Return>
...
            ( change auto_cgs in autocgs: )
      /–    autocgs

            ( save and exit vi )
:wq <Return>
```

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9.6.3 Restore the Backup Directory

After the installation of CGS you have to restore the backup directory saved in 9.2.8 (on page 100). Login as CGS administrator and restore the files. The example shows the command reading the default tape at your server, then set an environment variable pointing to the restored directory:

```
login: Your_CGS_Admin <Return>
Password: Password <Return>
hostname:Your_CGS_Admin 1: cd $GSAF_HOME <Return>
hostname:Your_CGS_Admin 2: tar xv <Return>
hostname:Your_CGS_Admin 3: setenv CGS_SAVE $GSAF_HOME/CGS_SAVE.4.2 <Return>
```

Copy the stored configuration files needed for the CGS installation to the correct location.

```
hostname:Your_CGS_Admin 4: cp –R $CGS_SAVE/customconfig $GSAF_HOME/ <Return>
```

9.6.4 Install CGS delivery

To install the CGS delivery please follow the installation process described in chapter CGS Delivery Installation (sec. 4.4 on page 48). Please consider the remarks below.

Important: Do not perform the commands of section 4.4.2.1 (on page 49), if you want to use your previous configuration.

Note: Do not Install the CGS related Oracle tablespaces ! The tablespaces are still exixting.

Note: Do not Insert Oracle startup and shutdown into /etc/rc dirs ! The oracle – rc scripts are still valid!

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9.7 Configuration Procedure

The configuration of your CGS system will differ in some points from an initial CGS configuration. So follow the configuration procedure carefully.

9.7.1 MDB SID Ranges

To use the SID range definition files you need only to copy the old files to the correct location. Within the home directory of `SID_Administrator`, a subdirectory `mdb_installations` has been created by the SID range tool. This subdirectory is now to be copied to the `$GSAF_HOME/mda` subdirectory:

hostname:*Your_CGS_Admin* 5: **cp –r ~*SID_Administrator*/mdb_installations $GSAF_HOME/mda/config<Return>**

9.7.2 MDB Installation and Initialization

Important: If your MDB contained delivered data types (MDB SW delivery), this data types must be upgraded for further use. Follow the MDB SW Installation Manual delivered with this data types, section ”Administration Software”.

Now you can continue with the installation and the initialization of the MDB as described in chapters 5.1.3 and 5.1.4 starting at page 68.

9.7.3 MDB Data Upgrade / Import

If you had chosen MDB update option A or B (keep MDB data), you have to import the saved MDB export files. After upgrade of export files from former version call the import script.:

hostname:Your_CGS_Admin 6: **cd $GSAF_HOME/mda/config/mdb/upgrade <Return>**

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hostname:Your_CGS_Admin 7: **./upgrade <Return>**

Do you wish to start the upgrade [y] ? **<Return>**
Enter the ORACLE system–account's password: ***passwd*** **<Return>**

Enter temporary ORACLE account name to use for upgrade
\(THIS USER MUST NOT BE INSTALLED BEFORE IN ORACLE!\)
(Default MDB_UPGRADE): **<Return>**

Enter the upgrade: CGS_MDB_V4_2_0_to_CGS_MDB_V4_3_0 ***<Return>***

Enter BASENAME of the datafiles generated by the export of the MDB
(INCLUDING THE PATH BUT WITHOUT TRAILING .<number>):
YourCGS_SAVE/export_MDB.*MDB_Owner.date* **<Return>**

Export terminated successfully without warnings.

... Finished
Stored in *<$HOME>/upgraded_CGS_MDB_V4_2_0_to_CGS_MDB_V4_3_0.<date>*.0
...
<$HOME>/upgraded_CGS_MDB_V4_2_0_to_CGS_MDB_V4_3_0.<date>.4

... Finished export

De–Installing ORACLE–user 'MDB_UPGRADE' of MDB upgrade ...

Revoke succeeded.

User dropped.

hostname:Your_CGS_Admin 8: **./import <Return>**

Enter OWNER NAME of the Oracle MDB account [MPS] : ***MDB_OWNER*** **<Return>**
Enter OWNER PASSWORD of the Oracle MDB account [MPS] : ***Password*** **<Return>**
Enter BASENAME of the datafiles
(INCLUDING THE PATH BUT WITHOUT TRAILING '.<number>')
<$HOME>/upgraded_CGS_MDB_V4_2_0_to_CGS_MDB_V4_3_0.<date> **<Return>**

The logging–file stores all display outputs during the script execution
in the users HOME (*<$HOME>)* directory
Default logging filename: import_to_MPS.<date>.log
Enter logging–file name [import_to_MPS.<date>.log] : **<Return>**
.
. *(lots of messages)*
.
... Finished import

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9.7.4 MDB Users

Install the CGS Administrator as MDB user as described in chapter 5.1.5 on page 70.

9.7.5 Example Database

If you had chosen MDB update option B or C (use delivered MDB contents), you must import the MDB example database as described in chapter 5.1.6 on page 71.

9.7.6 FWDU Configuration

Configure FWDU as described in section 5.2 on page 73.

9.7.7 Checkout Configuration

You have to use a slightly different installation sequence to configure your CGS V4 software as described in chapter 6. First, copy your old configuration files from your save directory:

```
hostname:Your_CGS_Admin 9: cd $CGS_SAVE <Return>
hostname:Your_CGS_Admin 10: cp SYSTEM_TOPOLOGY_TABLE USER_PROFILES
$GSAF_HOME/cgs/config/ <Return>
hostname:Your_CGS_Admin 11: cp dbs_cshrc $GSAF_HOME/dbs/user_env/ <Return>
hostname:Your_CGS_Admin 12: cp dbs_privilege_file.def $GSAF_HOME/dbs/con-
fig/ <Return>
hostname:Your_CGS_Admin 13: cp screen_setup_pool/* $GSAF_HOME/hci/data/
screen_setup_pool/ <Return>
hostname:Your_CGS_Admin 14: cp ntpq_format_on_* $GSAF_HOME/tss/config/
```

Now follow sections 6.2 (to start the CGS daemon), 6.4 (to add the CGS administrator as Checkout User), 6.6 and 6.7 (to configure the FA SAS and the NTP software).

9.7.8 TRDB configuration

To restore the state of TRDB the TRDB–files must be restored only. The TRDB–database is still valid.

```
hostname:Your_CGS_Admin 15: cd $GSAF_HOME/dbs <Return>
hostname:Your_CGS_Admin 16: tar xvf YourCGS_SAVE/trdb.content/TRDB.tar.*
hostname:Your_CGS_Admin 17: foreach file (‘cat TRDBWholeFileContent‘)
 ? echo $file
 ? uncompress $file.Z
 ? end
hostname:Your_CGS_Admin 18: rm $GSAF_HOME/dbs/data/EVALUATION/* <Return>
```

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9.7.9 CSS Configuration

Please follow section 6.8 (on page 83) to configure CSS.

9.8 Update CGS Hosts

Now install CGSI on all other CGS hosts (clients and testnodes) and add them to the CGS system as described in sections 10.1.4 (Sun Client on page 115) and 10.4.4 (HP Test Node on page 129).

Note: The SYSTEM_TOPOLOGY_TABLE was copied from the old CGS installation. You only need to apply changes of the topology.

9.9 Update CGS Users

Add all CGS user listed in step 9.2.5 to the system (see section 10.6 on page 137). Note, that the CGS Administrator is already installed as an MDB user! Install user characteristics as shown in table below:

user name	unix user	oracle user	mdb user	checkout user
YourCGSAdmin				✓
user_1 ... user_n			✓	✓

9.10 Data Upgrade

To ensure correct working of your CGS environment and avoid errors in your application after the upgrade please perform following tasks:

- adapt your config files
  If you made special settings in different cgs config files you need to adapt them again. Do not copy the old files, because different config file content has been changed!
- recompile SAS software with the new CGS API (see 7.3 and 7.4 on page 87)
- reconfigure CSS models
- replace UCL system libraries with the new versions (see 5.1.7 on page 72). The UCL libraries are stored in the directory `$GSAF_HOME/cgs/config` as text files which can be imported via the `File->Include...` menu of the CLS editor.
- recompile your UCL APs (in window `I_MDB:CDU Versions` or `I_MDB:CCU Versions` select 'Command'–>'Tools'–>'CLS Batch Compiler...')
- generate new Scoe files (in CCU scope: select on an `EGSE_TEST_CONFIGURATION` enditem 'Tools'–>'Generate Scoe Files...')

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10 ADMINISTRATION

10.1 Add Additional Client

If you would like to add an additional Sun workstation client to your CGS network, which should be enabled to use CGS, you have to install the operating system with view to your needs.

Solaris distinguishes between three kinds to install Sun workstation clients to the server:

- Diskless workstation
- Dataless workstation
- Standalone workstation

Since almost all Sun workstations are delivered with an internal disk, we suggest to install the client machine as a standalone workstation which mounts the corresponding CGS filesystems from the CGS server. The machine must also be a member of the same NIS domain as the CGS master server.

Note: 'Standalone' does not mean without connection to a network. The standalone workstation may nevertheless be NIS and NFS client. Refer to the Solaris Installation manual [AD 2.1.1] for deviations from the following procedure.

In case you have a machine without an internal disk you have to install it as a diskless client. If you have a workstation with a small local disk (i. e. less than 400 MB) you may install it as a dataless machine.

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10.1.1 Solaris Installation Procedure

The following procedure is an **example** for the installation of a standalone client machine. Boot Solaris from the delivery media, select the system parameters as shown in the following table and then reboot the workstation.

10.1.1.1 Booting from cdrom

Power on the workstation. After some time the PROM monitor prompt "ok" will appear. If you system starts to boot an old operating system which should be overwritten stop the boot process with the keys `<Stop – A>`

In case an operating system is already installed, and this is up and running, login as root, then shutdown and halt the machine. After the `halt` command, the ">" prompt will appear. At this prompt type **`n<Return>`**. Now you will see the "ok" prompt.

Mount the CD with Solaris and enter:

```
ok boot cdrom <Return>
```

The system will boot Solaris now from the CD–ROM and will start the OpenWindows environment.

The installation program will lead you through the installation process, so please read all outputs carefully and answer along to the following table or according to your local needs, then confirm your inputs

by pressing the 'OK' or 'Continue' button. At every point of the installation procedure you can go a step back:

Step	Installation Step	Action
1	Identify this System	
1.1	What is your locale ?	UK–English (ISO 8859–1)
1.2	Host Name	enter the hostname of your workstation (see client list C.1.6)
1.3	Networked	select 'Yes'
1.3.1	*if more than one network interface is available:* Network Interface	select the network interface connected to the CGS LAN (mostly '**le0**' or **'hm0'**)
1.3.2	IP Address	enter IP address of the workstation
1.4	Confirm Information	Continue
1.5	Name Service	select 'NIS (formerly YP)'
1.5.1	Domain Name	enter your domain name (see appendix C.2.1)
1.5.2	Name Server	select **'Find one'**
1.5.3	Confirmation screen (showing your NIS master)	
1.6	Time Zone	select **'Geographic region'**
1.6.1	Geographic region	select Your Region select Your Timezone Continue
1.7	Date and Time	Check time and change it if needed
1.8	Confirmation screen	
2	Install Solaris Software	
2.1	System Type	select **'INITIAL'** Continue
2.2	Languages	– select additional needed language support, then press 'Add' button – repeat this for all needed languages
2.3	Software	select **'Developer System Support'**
2.4	Disks (showing available disks)	– select your Solaris boot disk (e.g. 'c0t3d0'), then press 'Add' button – repeat this for other disks
2.4.1	*if a selected disk contains already data:* Preserve Data	select continue

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Step	Installation Step	Action
2.4.2	Automatically Layout Filesystems ?	use **auto–layout**
2.4.3	Auto–layout File Systems (a list of standard filesystems is given, some filesystems already marked)	select filesystems which shall be created, e.g.: **/** **swap** **/var** then continue
2.4.4	File System and Disk Layout (default size of each selected filesystem is shown, all remaining storage – the free hog partition is assigned to /export/ home)	select **Customize Layout**
2.4.5	Customize <first selected disk>	change size and names (of non system filesystems) to your needs, e.g. for a 2 GB disk: / => 650 MB swap => 300 MB /var => 150 MB /export => 900 MB *(Please refer to the CGS Installation Checklist for minimum values of the system partitions)* Continue if definitions are correct
2.4.6	last step is repeated for every disk selected in step 2.4	*(no other filesystem is needed on a CGS client)*
2.5	Profile – Confirmation screen	compare all installation options, then select **'Install'** with the option **'Automatic Reboot'**
2.5.1	A warning may appear here if the disk space is not used completely	
2.6	System Installation is performed	
2.7	The system reboots	Enter the new Root password twice.

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For the correct execution of CGS with Solaris 2.6 the recommended Solaris patches must be installed. Copy the patch delivery to your hard disk and follow the installation instruction of the patch description.

10.1.2 CGS Server Configuration

Now the new CGS client workstation must be introduced to the NIS domain. Perform the steps of this section as user `root` on the **NIS master server.**

First add the new CGS workstation to the hosts database. Then expand the CGS netgroup and distribute the NIS maps to the network:

```
Login: root <Return>
Password: RootPassword <Return>

# vi Your_NIS_Directory/hosts <Return>
.           ( add line with IP address and hostname of client )
.
.     Client_IP_Address  Client_Name

:wq <Return>



# vi Your_NIS_Directory/netgroup <Return>
.           ( append the line containing the CGS netgroup with
.
.     (Client_Name,,)

:wq <Return>



# cd /var/yp <Return>
# /usr/ccs/bin/make <Return>
updated hosts

pushed hosts
updated netgroup

pushed netgroup

# exit <Return>               ( logout )
```

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10.1.3 Solaris Configuration for CGS

Login as `root` on the client workstation. If your client workstation shall be able to communicate to hosts outside the local LAN segment, you must create the file `/etc/defaultrouter.` This file contains the name or the IP address of the router to the outer network (see appendix C.1.3.). Please add the IP address and the name of the router to the host database `/etc/hosts.` Verify, that your CGS server is also listed in the hosts database:

```
Login: root <Return>
Password: RootPassword <Return>

# echo Your_Default_Router > /etc/defaultrouter <Return>

# vi /etc/hosts <Return>
.           ( add IP address and name of the router at the end of the file
              add IP address and name of the NIS server if not in list:
.
      IP_Address  Host_Name

:wq <Return>
```

Now configure the printer(s). CGS needs at least one printer available via the network. So this example shows how to configure a remote printer on the client host as the default printer. This task is done with the help of the Solaris `admintool`.

Note: All CGS hosts must use the same printer names because this names are referenced by CGS at every workstation.
To cover CGS print requirements the printer server used for the CGS environment must be setup to print a banner page for each print job! Please ask your system administration to setup the print server as required.

```
              ( start OpenWindows, if not running )
# /usr/openwin/bin/openwin <Return>



# admintool <Return>

  ... Admintool comes up

Select Browse –> Printers
Select Edit –> Add –> Access to printer
Enter Printer Name, Print Server, Description
Select Apply

repeat steps before to reference more remote printers, select one of them
as DefaultPrinter only

Select OK

Select File –> Exit
```

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10.1.4 Installation of the CGS Environment

10.1.4.1 Testnode on SUN

Before you install the CGS environment on new client, ensure if you want to use the client as testnode in your environment. To allow this feature, create for your SUN testnode an entry in file `$GSAF_HOME/customconfig/cgs.globalconfig` in form `_tnHOST#=sun-hostname` on your `CGS server`.

Important: Perform the steps in this section only, if your **client** shall installed as **testnode**.

```
# rlogin Your_CGS_Server –l Your_CGS_Admin <Return>
Your_CGS_Server:Your_CGS_Admin 1: vi $GSAF_HOME/customconfig/cgs.globalcon-
fig <Return>
            (append line for new testnode on SUN)

      _tnHost#=hostname
            (eg.  _tnHost1=cgs-client

            Save and Quit vi )
:wq <Return>
```

Distribute the archive directory *Your_TN_Base/Testnode* on the **NIS Server.** Therefore extend the automounter map file (see C.4.1) on the CGS server with the mount definitions of the new test node:

```
Your_CGS_Server:Your_CGS_Admin 2: su – root <Return>
Password: Your_Root_Password <Return>

# vi Your_NIS_DIR/autocgs <Return>
.           ( insert a new line to introduce your testnode directory)
.
.Your_TN_BASE/hostname  –rw,intr,soft  hostname:/export/Your_TN_BASE/host-
name

(e.g.
/testnode/cgs-client –rw,intr,soft cgs_client:/export/testnode/cgs-client
)

:wq <Return>
```

Announce the automounter map in NIS domain.

```
# cd /var/yp <Return>
# /usr/ccs/bin/make <Return>
# exit <Return>
Your_CGS_Server:Your_CGS_Admin 3: exit
```

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10.1.4.2 Install CGSI on client

You are still logged in as user `root` on client. At first, mount the GSAF_HOME directory of the CGS server. Then change your working directory to `$GSAF_HOME/cgsi/util/common` and call `install_cgsi`. This script will modify the system boot files on the new CGS client and add a crontab job (which dumps NTP messages into the NTP status file).

```
# GSAF_HOME=Your_GSAF_HOME <Return>
# export GSAF_HOME <Return>
# mkdir –p $GSAF_HOME <Return>
# mount Your_CGS_Server:$GSAF_HOME $GSAF_HOME



# cd $GSAF_HOME/cgsi/util/common <Return>
# ./install_cgsi <Return>

.           ( information about install script )

Enter disk/install status (server|client) [client]: <Return>

Enter name of the NFS disk server for this host [Your_CGS_Server]: <Return>

Enter NIS status (master|client) [client]: <Return>

Enter Oracle status (server|client) [client]: <Return>
Enter Oracle server host name [Your_CGS_Server]: <Return>
```

Now the installation script asks for the Oracle Home directories for client and server and checks correctness.

Important: REMEMBER: CGS use the same directory for client and server.

If the directory seems to be not available, the scripts asks later wether this path shall be mounted from the CGS server:

```
Enter Oracle server home [Your_Oracle_Home]: <Return>

  SQLPLUS is in the moment not visible in $ORACLE_HOME/bin as expected.
  Your Oracle directory may not be available/mounted yet.

Is the entered $ORACLE_HOME correct (y|n) ? [n]: y <Return>
```

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```
Enter Oracle client home [Your_Oracle_Home]: <Return>

  SQLPLUS is in the moment not visible in $ORACLE_HOME/bin as expected.
  Your Oracle directory may not be available/mounted yet.

Is the entered $ORACLE_HOME correct (y|n) ? [n]: y <Return>



Enter tools (Oracle) path to mount from server [Tools_Dir]: <Return>

Enter mail status (mailhost|client) [client]: <Return>

Enter mail server for this host (none|hostname) [none]:  <Return>



          install_cgsi now will work with the following settings
          ------------------------------------------------------
.           ( list of installation options )

Are these values correct in order to update your system (y|n) ? : y <Re-
turn>
.           ( messages about done actions )



          Configure Imports/Exports
          -------------------------

Insert $TN_HOME /export/Your_TN_Home into /etc/dfs/dfstab (y|n) ? [y]:

Insert GSAF home mount into /etc/vfstab (y|n) ? [y]: <Return>

Insert users mount "Your_User_Home" into /etc/vfstab (y|n) ? [y]: <Return>

Insert tools (Oracle, DV) mount into /etc/vfstab (y|n) ? [y]: <Return>

.           ( messages about done actions )



          Special tasks
          -------------

Do you want to activate login logging (y|n) ? [y]: <Return>
.
Copy CGSI root dot files to root directory (y|n) ? [n]: <Return>
.
Extend the root directory "dot files" (y|n)? [n]: <Return>
```

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At last, the installation script adapts the startup scripts of the CGS client. It enables the startup of needed CGS processes at boot time. The startup script is written to `/etc/init.d.` Then a link is created to the real executed startup directories `/etc/rc0.d` and `/etc/rc3.d.` The order of execution of the startup scripts is given by a number in the file name, which can be selected at this point:

```
Do you want to install the CGS rc scripts ? [y]: <Return>

.           ( some explanation )

Hit RETURN to continue <Return>

.           ( some explanation )

Hit RETURN to continue <Return>

.           ( a list of startup files contained in /etc/rc3.d )

Please enter a distinct number for the S__cgs link ? [61]: <Return>

.           ( list of shutdown scripts in /etc/rc0.d

Please enter a distinct number for the K__cgs link ? [41]: <Return>

.           ( messages about done actions and modified files )
```

The script `install_cgsi` ends here. If your CGS installation is distributed over more partitions than handled by the installation script, you have to mount them manually. Therefore create the mountpoint directories on the client workstation, then insert the mount definitions into the file `/etc/vfstab`. The command `mountall` mounts all directories listed in the file:

```
# mkdir –p Mountpoint <Return>
.

# vi /etc/vfstab <Return>
.
.           ( Append lines )
.
.     Your_CGS_Server:Directory  –  Directory nfs 0 yes –

.           ( Save and exit vi )
:wq <Return>

# mountall –F nfs <Return>
```

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10.1.4.3 Mount Archiving Directory

Important: Perform the steps in this section only, if your **client** is installed as **testnode**.

If you have installed your client as testnode (include changing the automounter map) the changes must be activated on **CGS server** and on **each CGS SUN client** (except the new installed client – it will be rebooted at the end of installation):

```
Login: root <Return>
Password: Your_Root_Password <Return>

# automount –v <Return>
# exit <Return>
```

10.1.5 Change System Topology Table

Expand the system topology table with the new CGS client (see section 10.8.1 on page 145).

10.1.6 Reboot client

At last reboot your client. After this boot all mounts are available and your client will be synchronized to your NTP_MASTER. You are still logged in as user `root` on client.

```
# shutdown –i 6 –y <Return>
```

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10.2 Deinstall Client

To deinstall a client workstation, you have to execute (in principle) the client installation procedure in reversal direction. Your CGS system is down.

10.2.1 Deinstall Client – client part

First remove the client to be deinstalled from the system topology table as described in chapter 10.8.4 on page 149:

Secondly login at the host to be deinstalled as user `root` and execute the script `deinstall_cgsi.` This resets the system files to their original state.

```
Login: root <Return>
Password: RootPassword <Return>

# GSAF_HOME=Your_GSAF_HOME <Return>
# export GSAF_HOME <Return>
```

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```
# $GSAF_HOME/cgsi/util/common/deinstall_cgsi <Return>

.           ( information about the script )

-- Hit RETURN to continue -- <Return>

  Enter disk status (server|client) []: client <Return>

  Enter Oracle status (server|client) [client]: <Return>
.
Do you want to remove the TSS/NTP crontab entries (yes|no)? [yes]: <Return>
.
"cgs" seems to be mentioned in some of the files:
.
.           ( list of CGS startup files )

-- Hit RETURN to continue --  <Return>

Do you want to remove "/etc/rc3.d/S61cgs" [no] ? yes <Return>
--> Removing /etc/rc3.d/S61cgs
.
.           ( repeated for every CGS startup file found )
.
Delete DATAVIEWS (remove the DVHOME directory) ? [no]: <Return>

Remove DBS mount points ? [yes]: <Return>

  !!   Attention   !!
  !! Final cleanup !!

Removing  the files below $GSAF_HOME will destroy your
CGS installation.
.

-- Hit RETURN to continue --  <Return>
Do you want to remove any directory below $GSAF_HOME ? [no]: no <Return>

 *** ./deinstall_cgsi finished. ***
```

10.2.2 Remove mounted filesystems

Mounted filesystems must be removed manually.:

```
# cd /
# more /etc/vfstab
      for each mounted file system from Your_CGS_Server unmount this
      filesystem
# umount Your_GSAF_HOME
...
```

After all filesystems used by the old CGS installation are unmounted remove mount points:

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```
Login: root <Return>
Password: RootPassword <Return>

# rm –r Your_GSAF_HOME Your_TN_BASE /final_archiv* <Return>
            ( remove other directories which are no longer used as mount
              points, e.g. user directories, Oracle or other 'tools'
              directories )

# exit <Return>
```

Change the table of file system defaults:

```
# vi /etc/vfstab <Return>
.
.           ( remove filesystems mounted from the CGS server and other
              file systems which shall not be mounted in future:
.
.            Your_CGS_Server:Your_GSAF_HOME  ...
.
.            Save and exit vi )
:wq <Return>
```

If the CGSI root dot files has been installed during the CGSI installation (as described in chapter 10.1.3), you should reset the files `/.cshrc`, `/.login`, `/.logout.`, `/.mailrc` and `/.xinitrc`. For each of these files CGSI has been created a backup copy of the original files (if exist) with the extension `.preCGS.4.x`, which you may rename to the original file names.

10.2.3 Deinstall Client – server part

At last update the hosts database if the client is removed from the CGS network. Login at the **NIS master server** as user `root` and remove IP address and hostname from the file `hosts.` Remove the host definition from the CGS netgroup. Then export the NIS maps:

```
Login: root <Return>
Password: RootPassword <Return>
```

Remove client from host table:

```
# vi Your_NIS_Directory/hosts
.           ( remove IP address and hostname )
.
:wq <Return>
```

Remove client from netgroup:

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```
# vi Your_NIS_Directory/netgroup <Return>
.           ( remove the node definition from the line of the
.             CGS netgroup )
.
:wq <Return>
```

Remove automounted filesystems, are located on client:

```
# vi Your_NIS_DIR/autocgs <Return>
.           ( remove line to introduce your testnode directory, if your
              client was installed as testnode)
:wq <Return>
```

Announce the changed NIS maps in NIS domain.

```
# cd /var/yp <Return>
# /usr/ccs/bin/make <Return>
.
# exit <Return>
```

After changing the automounter map the automount service must be updated on **each** host (SUN and HP) in your CGS environment :

```
Login: root <Return>
Password: Your_Root_Password <Return>

# automount –v <Return>
# exit <Return>
```

10.2.4 Client reboot

The last step to be independ of CGS environment is to reboot your client:

```
# shutdown –i 6 –y <Return>
```

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10.3 Force Simulation Node

The installation of a Force machine is described in the Technical Note COL–RIBRE–TN–1318 1/0 [RD–2.2.1].

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10.4 Add HP Test Node

10.4.1 HP UX 10.20 Installation

Switch on the power on the HP machine. Within the first 10 seconds interrupt the boot–process with the <Escape>–key:

```
. . .
Press [ESC] to discontinue the Auto Boot Process:  <ESC>

.     ( menu of selectable actions )
```

Insert the CD–ROM 'Install and Core OS' of HP–UX 10.20 into the CD–ROM drive, then select from the boot menu number **1: Boot from a Device.** The system will search now for bootable devices and display them in a menu. Enter the number of your CD–ROM drive.

If the BIOS does not support the boot, menu enter following commands:

```
search scsi <Return>          ( this displays a list of devices )
boot scsi.ID_of SCSI_Device <Return>
```

After this, the system boots from CD–ROM and starts the installation program. It will lead you through the installation process interactively. So please read all outputs carefully and answer along to the following table (which contains a simple example). Use the CGS Installation Work Sheets in appendix C to find out correct answers or to document your configuration.

Within the installation program use:

- <Tab> or the Cursor–Keys to select a menu item or a action button
- the <Return>–Key to confirm a selection.

The functionality of the function keys is shown at the terminal. The following table contains the inputs for a simple HP–UX installation. Confirmation screens are not listed .

Step No.	Installation Step/Screen	Action
1	*If your system has a PS/2 DIN interface* (list of possible PS/2 interface languages is given)	enter the number of your PS/2 interface language (e.g. 45 for PS2_DIN_US_ English)
2	Welcome to the HP–UX installation ... *(Menu of Tasks to perform)*	select '**Install HP–UX**'
3	Would you like to enable networking now ?	enter '**N**' <**Return**> (answer 'Y' only for a network based installation; type ^C on DHCP question)

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Step No.	Installation Step/Screen	Action
4	*If the system contains more than one hard disk:* Select System Root Disk	select the disk which shall contain the root partition
5	Select Whole System Configuration	select '**Standard Whole–disk (non–LVM) configuration**' *(Note: this allows only one partition on the disk)*
6	View/Modify Basic Configuration ... *(List of configuration items with default values)*	change '**Primary Swap Size**' to **256 MB** by following steps: 1. Select item with cursor keys 2. Press <F3> to display the list of possible values 3. select the new value (256 MB) 4. Press <F3> to use the new value All other parameters are used by default. Then press the <F5> key
7	System Configuration ... *(list of actual selected configuration)*	Press <Return> to confirm
8	*If your hard disk already contains a file-system:* WARNING: The Disk ... appears to contain a file system ...	select '**Continue**', then press **<Return>**
9	Enter SD–UX swinstall information ... Do you want to interact with SD_UX swinstall [No]	Select **OK** and confirm with the **<Return>** key.
10	*(Messages about installation of SW packages)*	

After the basic installation the system configuration is started. The following table shows the interaction with a graphical user interface. At an ASCII console the configuration procedure differs slightly from the following table:

Step No.	Installation Step/Screen	Action
11	Welcome to HP–UX ... Are your ready to link this system to a network ?	select '**Yes'**
12	Enter the System Name	Enter the name of your HP host
13	*(list of geographical regions is shown)* Enter number for your location	select your region and the 'OK' button

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Step No.	Installation Step/Screen	Action
14	*(list of timezones of selected geographical regions is shown)* Enter number for your timezone	select your timezone and the 'OK' button
15	System time and date ... *(actual system time and date)* Is this correct ?	Answer to your actual needs.
16	This section enables you to set the "root" password for the system Do you want to set the root password ?	answer '**Yes**', then enter the new password twice.
17	Enter your IP address:	Enter the IP address of your HP host
18	*(Information for add. network configurations)* Do you want configure these additional network parameters ?	Answer '**Yes**'
19	*(network configuration screen)* Subnetwork Mask : Gateway hostname: Gateway IP address:	Enter **Your_Subnet_Mask**, the name of the default router and the IP address of the router and confirm by clicking at the 'OK' button
20	Domain Name System ...	Press the button '**Cancel**', the Domain name system is not required by CGS
21	*(NIS Information)* NIS Domain Name:	Enter the name of your NIS domain then press the OK button.
22	Configure Font Server ... Do you want to configure this system as a font server ?	select '**No**'
23	Congratulations ...	select '**Close**'
24	The system boots	

This finishes the installation of the HP–UX operating system.

10.4.2 CGS Server Configuration

At next the new test node must be introduced to the hosts database and the CGS netgroup on the **NIS master server**. Login on the NIS master as user `root` and add IP address and hostname to the file `hosts` within your NIS map directory, then expand the netgroup definition and export the NIS maps:

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```
Login: root <Return>
Password: RootPassword <Return>

# vi Your_NIS_Directory/hosts <Return>
.           ( add IP address and hostname )
.
.     Node_IP_Address  Node_Name

.             Save and Exit vi )
:wq <Return>



# vi Your_NIS_Directory/netgroup <Return>
.           ( append the line containing the CGS netgroup with
.
.     (Node_Name,,)

.             Save and Exit vi )
:wq <Return>
```

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Insert the archive directory *Your_TN_Base/Testnode* in NIS map on the **CGS Server.** Therefore extend the automounter map file (see C.4.1) on the CGS server with the mount definitions of the new test node:

```
Login: root <Return>
Password: Your_Root_Password <Return>

# vi Your_NIS_Directory/autocgs <Return>

.           ( Append the line

Your_TN_BASE/Testnode –rw,intr,soft Testnode:/export/Your_TN_BASE/Testnode

            Save and exit vi )
:wq <Return>
```

Announce the automounter map in NIS domain.

```
# cd /var/yp <Return>
# /usr/ccs/bin/make <Return>

.           ( stay logged in on the server for further installation steps )
```

10.4.3 HP–UX Configuration for CGS

Login on each HP node as the user `root` and activate the NIS service for the user and group database:

```
Login: root <Return>
Password: Your_Root_Password <Return>

# vi /etc/passwd <Return>
.           ( append line
.
      +::0:0:::

                then save and quit vi )
:wq! <Return>



# vi /etc/group <Return>
.           ( append line
.
      +

                then save and quit vi )
:wq! <Return>



# vi /etc/auto_master <Return>
.           ( insert line
.
      +auto_master

                then save and quit vi )
:wq! <Return>
```

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10.4.4 Installation of the CGS Environment

You are still logged in on the test node as user `root`. Now create the mount point for the CGS installation and mount the filesystem from the CGS server:

```
# GSAF_HOME=Your_GSAF_HOME <Return>
# export GSAF_HOME <Return>
# mkdir –p $GSAF_HOME <Return>
# mount Your_CGS_Server:$GSAF_HOME $GSAF_HOME <Return>
```

Then call the script `install_cgsi`:

```
# cd $GSAF_HOME/cgsi/util/common <Return>
# ./install_cgsi <Return>

.            (some messages about the installation script )

Enter name of the NFS disk server for this host [Your_CGS_Server]: <Return>

Enter mail status (mailhost|client) [client]: <Return>

Enter mail server for this host (none|hostname) []: none <Return>

.           ( List of installation options )

Are these values correct in order to update your system (y|n) ? : y

          Update target system.
          ~~~~~~~~~~~~~~~~~~~~

          Configure Imports/Exports
          -------------------------

Insert $TN_HOME Your_TN_Home into /etc/exports (y|n) ? [y]: <Return>

  System file /etc/exports updated.

Insert GSAF home mount into /etc/fstab (y|n) ? [y]: <Return>

  /etc/fstab updated.

Insert users mount "Your_User_Home" into /etc/fstab (y|n) ? [y]: <Return>

  /etc/fstab updated.
```

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The following tasks are special in the sense, that they are not necessary to run CGS, but may be useful. So failed logins may be logged. If you tend to work with CGS from the root account, the root dot files may be of interest for you. Since this might introduce security holes, it is not recommended.

```
          Special tasks
          -------------

Do you want to activate login logging (y|n) ? [y]: <Return>

.

Copy CGSI root dot files to root directory (y|n) ? [n]: <Return>

.

Extend the root directory "dot files" (y|n)? [n]: <Return>
```

At last the installation script adapts the startup scripts of the test node. It enables the startup of needed CGS processes at boot time. The startup script is written to `/sbin/init.d.` Then a link is created

to the real executed startup directories `/sbin/rc0.d` and `/sbin/rc3.d.` The order of execution of the startup scripts is given by a number in the file name, which you can select at this point.

```
          Boot and startup files
          ----------------------

Do you want to install the CGS rc scripts ? [y]: <Return>

.           ( some information about handling the startup scripts )

Hit RETURN to continue <Return>

.           ( some information about handling the startup scripts )


Hit RETURN to continue <Return>

.           ( List of already installed scripts in /sbin/rc3.d )

Please enter a distinct number for the S___cgs link ? [600]: <Return>

.           ( List of already installed scripts in /sbin/rc0.d )

Please enter a distinct number for the K___cgs link ? [400]: <Return>

.

          CGSI installation finished successful.

.           ( List of modified files )
```

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If your CGS installation is distributed over different filesystems, mount all directories needed additional on the Test Node (e.g. additional user directories, tools for SAS development):

```
# mkdir –p Mountpoint<Return>
...
# vi /etc/fstab <Return>
.           ( insert mounts of further directories
.
.     Your_CGS_Server:directory directory nfs rw,intr,bg 0 0
.
            Save and Exit vi )
:wq! <Return>
# mount –a –F nfs <Return>
```

10.4.5 Change System Topology Table

Important: Skip this point, if the new HP test node is already inserted as part of the installation of the Master Test Processor!

Expand the system topology table with the new CGS client (see section 10.8.2 on page 146).

10.4.6 Mount Archiving Directory

After changing the automounter map the automount service must be updated on **each** host in your CGS environment (including the new installed testnode) :

```
Login: root <Return>
Password: Your_Root_Password <Return>

# automount –v <Return>
# exit <Return>
```

10.4.7 Reboot testnode

At last reboot your client. After this boot all mounts are available and your client will be synchronized to your NTP_MASTER. You are still logged in as user root on client.

```
# /usr/sbin/reboot <Return>
```

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10.5 Deinstall HP Test Node

Login on the **HP test node to be deinstalled** and modify your system topology table as described in chapter 10.8.4 on page 149.

10.5.1 Deinstall Client – server part

On the **CGS Server** remove the archive directory *Your_TN_Base/Testnode* from the automounter map **autocgs.** Then delete the test node from the hosts database just as from the CGS netgroup:

```
Login: root <Return>
Password: Your_Root_Password <Return>
# cd Your_NIS_Directory  <Return>



# vi autocgs <Return>

.           ( remove the line containing the test node to be removed )
            ( Save and exit vi ).
:wq <Return>



# vi hosts
.           ( remove IP address and hostname of the node)

            ( Save and exit vi ).
:wq <Return>



# vi netgroup <Return>
.
.           ( remove the node definition from the line of the
              CGS netgroup )

            ( Save and exit vi )
:wq <Return>



# cd /var/yp <Return>
# /usr/ccs/bin/make <Return>
.

# automount –v <Return>

# exit <Return>
```

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After changing the automounter map the automount service must be updated on **each** host in your CGS environment :

```
Login: root <Return>
Password: Your_Root_Password <Return>

# automount –v <Return>
# exit <Return>
```

10.5.2 Deinstall Client – testnode part

Then login on the Test Node as user `root`. The CGS dependent part of the startup files is removed by the script `deinstall_cgsi.`

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```
Login: root <Return>
Password: RootPassword <Return>

# GSAF_HOME=Your_GSAF_HOME <Return>
# export GSAF_HOME <Return>
# $GSAF_HOME/cgsi/util/common/deinstall_cgsi <Return>

.           ( information about the script )

-- Hit RETURN to continue -- <Return>

  Enter disk status (server|client) []: client <Return>

Do you want to remove the TSS/NTP crontab entries (yes|no)? [yes]: <Return>

.

"cgs" seems to be mentioned in some of the files:
.
.           ( list of CGS startup files )

-- Hit RETURN to continue -- <Return>

Do you want to remove "/sbin/rc3.d/S600cgs" [no] ? yes <Return>
--> Removing /etc/rc3.d/S60cgs

.           ( last step repeated for every CGS startup file found )

Delete DATAVIEWS (remove the DVHOME directory) ? [no]: <Return>

Remove DBS mount points ? [yes]:  <Return>

  !!   Attention   !!
  !! Final cleanup !!

Removing  the files below $GSAF_HOME will destroy your
CGS installation.
.

-- Hit RETURN to continue --  <Return>
Do you want to remove any directory below $GSAF_HOME ? [no]: no <Return>

 *** ./deinstall_cgsi finished. ***
```

10.5.3 Remove mounted filesystems

The NFS mount of the CGS home directory must be reset manually:

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```
# vi /etc/fstab <Return>
.
.           (remove the line:
.            YourSunServer:Your_GSAF_HOME Your_GSAF_HOME nfs rw 0 0
.
.            remove other file systems which shall not be mounted in future
.
.           Save and exit vi)
:wq <Return>
```

After this remove the archiving directory from the export list of the test node, then remove the directory:

```
# /usr/sbin/exportfs –u Your_TN_Base/Test_Node_Name <Return>

# vi /etc/exports <Return>
.
.           ( remove line containing the archiving directory
.
.             Save and exit vi )
:wq <Return>

# rm –r Your_TN_Base <Return>
```

Deactivate the NIS service for the user and group database:

```
# vi /etc/passwd <Return>
.           ( remove line
.
      +::0:0:::

              then save and quit vi )
:wq! <Return>

# vi /etc/group <Return>
.           ( remove line
.
      +

              then save and quit vi )
:wq! <Return>
# exit <Return>
```

10.5.4 Client reboot

The last step to be independ of CGS environment is to reboot your client:

```
# /usr/sbin/reboot <Return>
```

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10.6 Add CGS User

The following procedure creates a user account which is authorized to use each CGS product. Perform the user installation at the NIS master server.

Login as the CGS administration user, then change your permissions to `root` and call the central user installation script `install_user`. You may specify the option `–test`, if the new user shall get a predefined CGS environment and some test data related to the CGS demonstration. Note that all names of users and directories are examples. Adapt the names to your local installation. Moreover note that for the Oracle auto login facility, the unix user name has to be preceded by the prefix ”ops$”. That means, that such users can login to Oracle from their unix account without being requested for the Oracle password. CGS software depends heavily on this feature. Therefore in the MDA part of the user installation, the ’ops$’ prefix is requested to enter. Look after the (ops...) in the script:

```
Login: Your_CGS_Admin <Return>
Password: Your_Password

hostname:Your_CGS_Admin 1 su <Return>
Password: RootPassword <Return>

# $GSAF_HOME/cgs/util/common/install_user <Return>

Enter the login name for the CGS user (up to 8 alphanum. character)
[Your_CGS_Admin]: New_User <Return>
.
Create user New_User as a UNIX user (y|n) ? y <Return>

Enter the full name of the new user: Description of the User <Return>

.           ( list of available user groups )

In which of these groups should "New_User" be included ? [cgs]: <Return>

.           ( explanation to the User Home Directory

Enter parent directory for New_User's home [Your_User_Home] : <Return>

.           ( list of installation data )

Do you wish to create the new CGS user specified above (y|n) [y] ? <Return>

.           ( messages about installation )

New password: NewPassword <Return>
Re–enter new password:  NewPassword <Return>

.           ( messages about installation )

Shall the CGSI UserDotFiles be copied to the user's home ? (y|n) [y] <Re-
```

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```
turn>

.           ( messages about copied files )

Create user New_User as a MDA user? (y/n) [y]: <Return>

Enter Oracle Password for the new Oracle User:  NewUsersPassword <Return>

Enter Oracle SYSTEM Password: OracleSystemPassword <Return>

Creating Oracle user : NewUser
====================

Please indicate which privilege(s) should be granted :
-----------------------------------------------------
    CONNECT           (default for new users)  =>  1
    CONNECT, RESOURCE, CREATE SEQUENCE         =>  2

Privilege(s) [1] : <Return>
.
.           ( some messages,
.             if privilege 2 was chosen, you have to select the
              tablespace TS_MPS and TEMP as temporary tablespace )
.

This procedure installs a new MDB user.

.

Do you want to perform the installation ? [y]  <Return>

.

Enter logging-file name (default: install_user.log) : UserName.log <Return>

Enter OWNER NAME of the Oracle MDB account [MPS]    : MDB_Owner  <Return>
Enter OWNER PASSWORD of the Oracle MDB account [MPS]    : Password <Return>

Enter OWNER NAME of the temporary Oracle MDB account [MPS_EXPORT] : <Re-
turn>
Enter OWNER PASSWORD of the temporary Oracle MDB account [MPS_EXPORT] :
<Return>

Enter ORACLE user name (ops...) for new user :  ops$New_User <Return>
Enter ORACLE password new user :   New_UserPassword <Return>

Enter privilege CONFIGURATION_MANAGER or NORMAL_USER:  NORMAL_USER <Return>
.
.           ( lots of messages )
.
```

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```
Shall the user New_User be added as Checkout user? (y/n) [Y]: <Return>
.
  Follow screen setups are available:
        basic
        ...
  Select one screen as your default screen setup [basic] : <Return>

  Follow privileges are available:
        IS_TEST_CONDUCTOR
        IS_TEST_OPERATOR
        IS_TEST_EVALUATOR
  Select one privilege as your default [IS_TEST_EVALUATOR] : <Return>

.           ( some message )
.
install_user: Ready
# exit <Return>
```

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10.6.1 Update USER_PROFILE

Now you can modify the CGS user profile. Therefore edit the file `$GSAF_HOME/cgs/config/USER_PROFILES.` Insert the missing entries (eg. user name, the user privilege, a default HCI screen setup or one or more optional user depending services). The user depending services will appear as selectable menu entries of the HCI main menu:

```
hostname:Your_CGS_Admin: vi $GSAF_HOME/cgs/config/USER_PROFILES <Return>
.
.           ( insert a user definition as given here by example
.
      NAME=New_User
      PRIV=IS_TEST_CONDUCTOR
      HCI_SCREEN_SETUP=basic
      SERVICE=MISSION_DATABASE;$GSAF_HOME/mda/bin/sun5/I_MDB
      SERVICE=TASK SELECTOR;$CGSI_HOME/bin/sun5/ts
.
.             Save and Exit vi )
:wq <Return>
```

10.6.2 Update .rhosts

After that, login as the newly created user. Each CGS user who want's to use CGS Checkout Software or CSS, has to allow remote access for his own account within the file `.rhost`.

```
hostname:Your_CGS_Admin: su – New_User <Return>
Password: Password <Return>

hostname:New_User 2: vi .rhosts <Return>
.           ( if a CGS netgroup is defined, add a line in the form:
.
.           +@CGS_Netgroup New_User
.
              Save and Exit vi )
:wq <Return>

hostname:New_User 3: chmod 600 .rhosts <Return>
hostname:New_User 4: exit <Return>
```

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10.7 Deinstall CGS User

The complete deinstallation of a CGS user requires several deinstallation steps at different CGS levels:

- Checkout software environment
- MDB user environment
- Oracle
- UNIX

All the deinstallation steps are executed by the script `deinstall_user.` Please login as the CGS administrator on the NIS server, change the user permissions to `root` and call the script with the user name to be deinstalled as parameter, then answer to your actual needs:

```
hostname:Your_CGS_Admin 5: su <Return>
Password: RootPassword <Return>

# cd $GSAF_HOME/cgs/util/common <Return>
# ./deinstall_user CGS_User <Return>
```

First the CGS checkout environment is removed from the home directory of the user:

```
deinstall_cgs_user
==================

continue ? (y/n) [y] <Return>
.
CGS user environment deinstallation: Ready.
```

The next step deinstalls the user as MDB user. If you have already deinstalled all MDB users (e.g. as part of a complete CGS deinstallation) you have to answer 'n' at the first confirmation prompt:

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```
deinstall_mdb_user
==================

continue ? (y/n) [y] <Return>
.
```

```
This procedure de–installs a MDB user.
```

```
Do you want to perform the de–installation ? [y] <Return>

Enter OWNER NAME of the Oracle MDB account [MPS]    : MDB_Owner <Return>
Enter OWNER PASSWORD of the Oracle MDB account [MPS]: Password <Return>

Enter OWNER NAME of the temporary Oracle MDB account [MPS_EXPORT] :
Temp_MDB_Owner <Return>
Enter OWNER PASSWORD of the temporary Oracle MDB account [MPS_EXPORT] :
Password <Return>

Enter ORACLE user name for MDB user :  OPS$CGS_User <Return>
Enter ORACLE password MDB user :   User_Password <Return>
.
.           (lots of messages)
```

At next, the user is deleted as Oracle user. Do not remove the user from the Oracle environment if the user was not deinstalled from MDB:

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```
deinstall_oracle_user
=====================

continue ? (y/n) [y] <Return>
.
Enter the user's login name : CGS_User <Return>

Enter Oracle SYSTEM Password: OracleSystemPassword <Return>

Removing Oracle user : OPS$CGS_User
====================

Privileges for user OPS$CGS_User :

.           ( Table of Oracle privilege )

Please indicate which privilege(s) should be revoked :

.           ( menu of Oracle privilege to remove )

Privilege(s) [2] : <Return>
.
```

At last the user is removed as UNIX user. If you want to delete the home directory of the user, make sure that no important data is located there:

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```
deinstall_unix_user
===================

continue ? (y/n) [y] <Return>

REMOVE EXISTING CGS USER
========================


Enter the CGS user's login name: CGS_User <Return>
Is the user to be removed as a UNIX user ? (y/n) [default: y] <Return>

.           ( some information to the file passwd )

Do you wish to remove the CGS user specified above [yes]? <Return>

.           ( information about executed steps )

Do you wish to remove CGS_User's home directory (yes|no) [no]? yes <Return>

You should have backed up CGS_User's files if you do not wish to lose them.

Are you sure that you want to remove CGS_User's files (yes|no) [no]? yes
<Return>

Removing CGS_User's home directory Home_Dir and its contents...

 *** End of REMOVE_USER ***


========================
 DEINSTALL USER FINISHED
========================

# exit <Return>
```

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10.8 Modify System Topology Table

CGS provides the script `change_system_topology` which allows several tasks to modify the system topology table. Note that in the following the user input and the script output is just an example.

10.8.1 Add CGS Client

Log in as CGS Administrator on the new CGS client. You have to decide which processes you want to install on your new CGS client:

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```
Login: Your_CGS_Admin <Return>
Password: YourPassword <Return>
hostname:Your_CGS_Admin 1: cd $GSAF_HOME/cgs/util/common <Return>
hostname:Your_CGS_Admin 2: change_system_topology <Return>
change_system_topology: Modifies the system topology table

Select one of the following tasks:

  1    Add new workstation
  2    Add new test node
  3    Add processes to a known host
  4    Add SAS to a known host

  5    Remove some processes or SAS for a host
  6    Remove a host completely
  7    Remove a process completely

  x    Exit

Please type 1, 2, 3, 4, 5, 6, 7, or x: 1 <Return>

Hostname (hostname): <Return>
change_system_topology adds hostname into your system topology table.
For each CGS process you have to specify the process number (two digits).
If you do not want to insert the process in the system topology table,
enter <RETURN>
Already defined process numbers for TSCV are " 01 02 "
Enter process number of TSCV: 03 <Return>
Already defined process numbers for TEV are " 01 02 "
Enter process number of TEV: 03 <Return>
Already defined process numbers for HCI are " 01 "
Enter process number of HCI: 03 <Return>
Your system topology table will contain the following entries
(Refer to the installation manual if in doubt):

.           ( list of already defined CGS hosts and processes )

Is this correct? (y/n): y <Return>

Select one of the following tasks:
.
.           (task list)
.
Please type 1, 2, 3, 4, 5, 6, 7, or x: x <Return>

change_system_topology terminated
hostname:Your_CGS_Admin 3: exit <Return>
```

10.8.2 Add HP Test Node

Log in as CGS Administrator on the HP test node. Modify your system topology table as described below:

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```
Login: Your_CGS_Admin <Return>
Password: YourPassword <Return>
hostname:Your_CGS_Admin 1: cd $GSAF_HOME/cgs/util/common <Return>
hostname:Your_CGS_Admin 2: change_system_topology <Return>
change_system_topology: Modifies the system topology table

Select one of the following tasks:

  1    Add new workstation
  2    Add new test node
  3    Add processes to a known host
  4    Add SAS to a known host

  5    Remove some processes or SAS for a host
  6    Remove a host completely
  7    Remove a process completely

  x    Exit

Please type 1, 2, 3, 4, 5, 6, 7, or x: 2 <Return>

Hostname (hostname):  <Return>

change_system_topology adds hostname into your system topology table.
You have to specify the TES process number (two digits).
Already defined process numbers for TES are " 01 "
Enter process number of TES: 02 <Return>

Your system topology table will contain the following entries
(Refer to the installation manual if in doubt):
.
.           (listing of the topology table)
.
Is this correct? (y/n): y <Return>

Select one of the following tasks:
.
.           (task list)
.
Please type 1, 2, 3, 4, 5, 6, 7, or x: x <Return>

change_system_topology terminated
hostname:Your_CGS_Admin 3: exit <Return>
```

10.8.3 Modify Process List on CGS Hosts

Log in as CGS Administrator on the CGS host and call `change_system_topology`:

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```
Login: Your_CGS_Admin <Return>
Password: YourPassword <Return>
hostname:Your_CGS_Admin 1: cd $GSAF_HOME/cgs/util/common <Return>
hostname:Your_CGS_Admin 2: change_system_topology <Return>
change_system_topology: Modifies the system topology table

Select one of the following tasks:

  1    Add new workstation
  2    Add new test node
  3    Add processes to a known host
  4    Add SAS to a known host

  5    Remove some processes or SAS for a host
  6    Remove a host completely
  7    Remove a process completely

  x    Exit
```

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To insert new processes, select item 3:

```
Please type 1, 2, 3, 4, 5, 6, 7, or x: 3 <Return>

Hostname (hostname): <Return>

For each CGS process you have to specify the process number (two digits).
If you do not want to insert the process in the system topology table,
enter <RETURN>
Already defined process numbers for TSCV are ” 01 02 ”
Enter process number of TSCV: 03 <Return>
Already defined process numbers for TEV are ” 01 02 ”
Enter process number of TEV: 03 <Return>
Already defined process numbers for HCI are ” 01 ”
Enter process number of HCI: 03 <Return>
```

To insert a SAS, select item 4: You have to insert the **full** SAS name (e.g. SAS_TMTC, TTS_01), and a port number. The port number shall be from the range 7600 to 7700.

```
Please type 1, 2, 3, 4, 5, 6, 7, or x: 4 <Return>

Hostname (hostname): <Return>

You have to specify the SAS name and its port number.
Enter SAS name: NewSAS <Return>
Enter port number: SAS_Portnumber <Return>
```

To remove a process or an SAS, select item 5.

```
Please type 1, 2, 3, 4, 5, 6, 7, or x: 5 <Return>

Hostname (hostname): <Return>
.
.           (answer Y <Return> to the processes to be deleted)
.
```

Exit the script:

```
Your system topology table will contain the following entries
(Refer to the installation manual if in doubt):
.
.           (listing of your topology table)
.
Is this correct? (y/n): y <Return>

Select one of the following tasks:
.
.           (task list)
.
Please type 1, 2, 3, 4, 5, 6, 7, or x: x <Return>

change_system_topology terminated
hostname:Your_CGS_Admin 3: exit <Return>
```

10.8.4 Remove CGS Host

Login on the **host to be deinstalled** and modify your system topology table as described below:

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```
Login: Your_CGS_Admin <Return>
Password: YourPassword <Return>
hostname:Your_CGS_Admin 1: cd $GSAF_HOME/cgs/util/common <Return>
hostname:Your_CGS_Admin 2: change_system_topology <Return>
change_system_topology: Modifies the system topology table

Select one of the following tasks:

  1    Add new workstation
  2    Add new test node
  3    Add processes to a known host
  4    Add SAS to a known host

  5    Remove some processes or SAS for a host
  6    Remove a host completely
  7    Remove a process completely

  x    Exit

Please type 1, 2, 3, 4, 5, 6, 7, or x: 6 <Return>

Hostname (hostname): <Return>

Your system topology table will contain the following entries
(Refer to the installation manual if in doubt):
.
.           (listing of your topology table)
.
Is this correct? (y/n): y <Return>

Select one of the following tasks:
.
.           (task list)
.
Please type 1, 2, 3, 4, 5, 6, 7, or x: x <Return>

change_system_topology terminated
hostname:Your_CGS_Admin 3: exit <Return>
```

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11 CERTIFICATION TEST PROCEDURE

Important: This section is not supported in CGS 4.3.0.

11.1 Basic

In the course of this installation test procedure, we will have a one time use of all capabilities of the CGS software to certify the correct installation. The procedure will not determine any quality of the software.

If the CGS demo scenario data base was not already imported as described in chapter 5.1.6 on page 71, you have to import it now. Do it as the CGS administrator *Your_CGS_Admin*.

Create a CGS test user as described in chapter 10.6 on page 137. Do not omit the option `-test`, because the user shall use the CGS demo scenario. In the following we assume that the test user's name is `cgs_1`.

```
Login: cgs_1<Return>
Password: YourPassword<Return>
.
.           (OpenWindows is started
.            3 icons appear: Task, Messages, Console)
.
```

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11.2 Preparation Software

11.2.1 Start I_MDB GUI

Start I_MDB by opening the CGSI Task Selector (double click on the icon `Task`). Then select `'Test Preparation'` while holding the right mouse button. The I_MDB GUI and a PNS icon pops up.

11.2.2 Navigate in I_MDB GUI

Select CDUs

Step No.	Mouse	Action	Result
11.2.2.1	**dL**	Within the I_MDB window double click at the **(\)** symbol in the pathname area of I_MDB	Pathname area shows only the symbol
11.2.2.2	**dL**	double click at the item **'EURECA'**	A subwindow 'I_MDB:System Tree Versions' appears
11.2.2.3	**L**	in window 'I_MDB:System Tree Versions' select Mission **'DUMMY_MISSION'**	selected item highlighted
11.2.2.4	**dL**	in window 'I_MDB:System Tree Versions' double click at system tree version **'3'**	pathname area shows the system tree node followed by the mission name and the system tree version
11.2.2.5	**dL** **dL**	double click at item **EGSE** double click at **SUBSYSTEM**	pathname is append by the selected items, the contents of the items is displayed.
11.2.2.6	**dL**	double click at CDU item **ANTENNA**	subwindow 'I_MDB:CDU Versions' pops up
11.2.2.7	**dL**	in window 'I_MDB:CDU Versions' double click at version 3.0.2	the window is closed, CDU and CDU version are append to the pathname area, the contents of the CDU is shown in the User Tree Node area

During the next steps we will ask you for navigating to a certain CDU node by the notation: Navigate to \EURECA(3)\EGSE\SUBSYSTEM\ANTENNA(3.0.2), where the numbers after the names within parantheses denote the version which you have to select during the version–select–subwindows of the corresponding user–requests. You can always navigate upwards, if you double–left–click on a node within the "Pathname:" subwindow of the I_MDB Navigation window.

Select CCUs

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Step No.	Mouse	Action	Result
11.2.2.8	**L**	Navigate to **\EURECA*(3)***	path is shown in pathname area
11.2.2.9	**L**	select button '**EURECA**' within the pathname area	text: 'EURECA, Mission: DUMMY_MISSION(3) – selected'
11.2.2.10	**R**	select **File=>Show CCU Versions...**	subwindow 'I_MDB:CCU Versions' appears
11.2.2.11	**L**	in window 'I_MDB:CCU Versions' select CCU Name '**EURECA_DEMO**'	selected item highlighted
11.2.2.12	**dL**	in window 'I_MDB:CCU Versions' double click at version **3.0.1**	subwindow disappears, the CCU name and version are shown in the pathname area of I_MDB

During the next steps we will ask you for navigating to a certain node by the notation: Navigate to **\EURECA(3)CCU: EURECA_DEMO(3.0.1)***\EGSE\SUBSYSTEM\ANTENNA\BOOM_1, where the numbers after the names within parantheses denote the CCU version which you have to select during the version–select–subwindows of the corresponding user–requests.*

11.2.3 Check End Item Data

Step No.	Mouse	Action	Result
11.2.3.1	**L**	Navigate to **\EURACA(3) \EGSE\TOPOLOGY*SAS(*2.0.0*)/TTS***	path is shown in pathname area
11.2.3.2	**L**	select enditem '**SAS_TMTC**'	selected enditem is highlighted
11.2.3.3	**R**	from the pull down menu select **OPEN=>EGSE Software**	subwindow 'EGSE Software' is displayed, fields 'Software Type' and 'File Name' are filled with data
11.2.3.4	**L**	click at the push pin in window 'EGSE Software'	window is closed

11.2.4 Check Print Report Capability

Step No.	Mouse	Action	Result
11.2.4.1	**L**	Navigate to \	
11.2.4.2	**L**	Navigate to **\EURACA(3) \EGSE\TOPOLOGY**	path is shown in pathname area
11.2.4.3	**dL**	Double–left–click on the CDU **'SAS'**	window *'I_MDB: CDU Versions'*pops up
11.2.4.4	**R**	in 'I_MDB: CDU Versions' select **Command => Print...**	window 'Report Generator' appears

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Step No.	Mouse	Action	Result
11.2.4.5	**L**	in window 'Report Generator' click at '**Execute**'	message window 'REPORT GENERATION xxx successfuloly terminated'
11.2.4.6	**L**	click at '**Ok**' within the message window	textedit with the generated report is displayed
11.2.4.7	**R**	from the OpenWindows standard menu of textedit select '**Quit**'	textedit is closed
11.2.4.8	**L**	click at the push pin in window 'Report Generator'	window is closed

11.2.5 Check Consistency Checker Capability

Step No.	Mouse	Action	Result
11.2.5.1	**L**	Navigate to **\EURACA(3)\EGSE\TOPOLOGY**	path is shown in pathname area
11.2.5.2	**dL**	Double–left–click on the CDU **'SAS'**	window *'I_MDB: CDU Versions'* pops up
11.2.5.3	**R**	in 'I_MDB: CDU Versions' select **Command => Consistency Checker...**	window 'Consistency Checker' appears
11.2.5.4	**L**	in window 'Consistency Checker' select '**Execute**'	textedit is displayed after a short time containing the report Result: CDU is local invalid
11.2.5.5	**R**	from the OpenWindows standard menu of textedit select '**Quit**'	textedit is closed
11.2.5.6	**L**	click at the push pin in window 'Consistency Checker'	window is closed
11.2.5.7	**L**	click at the push pin in window 'I_MDB: CDU Versions'	window is closed

11.2.6 CLS Editor

Step No.	Mouse	Action	Result
11.2.6.1	**L**	Navigate to **\EURECA(3)CCU: EURECA_DEMO(3.0.1)\EGSE\SUBSYSTEM\ANTENNA\BOOM_1**	path is shown in pathname area
11.2.6.2	**L**	select the UCL_AUTOMATED_PROCEDURE '**AP_DEPLOY**'	selected item highlighted
11.2.6.3	**R**	select from pull down menu **Tools=>CLS Editor...**	CLS Editor and a message window 'Item is readonly...' come up

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Step No.	Mouse	Action	Result
11.2.6.4	**L**	click at '**Continue**' in the message window	window is closed
11.2.6.5	**R**	from the OpenWindows standard menu of 'CLS Editor' select '**Quit**'	window is closed

11.2.7 GWDU

Step No.	Mouse	Action	Result
11.2.7.1	**L**	Navigate to **\EURECA(3)CCU: EURECA_DEMO(3.0.1)\EGSE\SUB-SYSTEM\ANTENNA\SYNOPTIC**	path is shown in pathname area
11.2.7.2	**L**	select the WDU_GROUND_SYN-OPTIC_DISPLAY '**EURECA**'	selected item highlighted
11.2.7.3	**R**	select from pull down menu **Tools=>GWDU Editor...**	GWD Editor and a message win-dow 'Item is readonly...' come up
11.2.7.4	**L**	select '**OK**' in the message window	window is closed
11.2.7.5	**L**	Within the "GWDU" subwindow select **File=>Quit** Confirm in confirmation win-dow	window is closed

11.2.8 FWDU

Make sure that no other process is running which has allocated a lot of display colors (e.g. netscape). FWDU will only use colors which are not allocated by other programs.

Step No.	Mouse	Action	Result
11.2.8.1	**L**	Navigate to **\EURECA(3)CCU: EURECA_DEMO(3.0.1)\EURECA\ON-BOARD\DISPLAY\FWDU_TEST**	path is shown in pathname area
11.2.8.2	**L**	Select the enditem '**DISPLAY**'	selected item highlighted
11.2.8.3	**R**	select from pull down menu **Tools=>FWDU Editor...**	4 windows are opened '$fb–cmnd:...', '$fb–vbdesk' , '$fb–bkgd' and 'Warning_popup CDU/CCU has status frozen ..'
11.2.8.4	**L**	select '**OK**' in 'Warning_pop-up'	Warning_popup disappears
11.2.8.5	**L**	in window '$fb–cmnd:' select **File=>Dismiss**	picture in window '$fb–bkgd' deleted
11.2.8.6	**L**	in window '$fb–cmnd:' select **File=>Exit**	'Confirm–popup' appears
11.2.8.7	**L**	select '**YES**' in 'Confirm_pop-up'	FWDU is removed from the dis-play

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11.2.9 CSS

Step No.	Mouse	Action	Result
11.2.9.1	**L**	Navigate to **\EURECA(3)CCU: EURECA_DEMO(3.0.1)\SIMULATOR\SUBSYSTEM\TCS_LOOP**	path is shown in pathname area
11.2.9.2	**L**	Select the enditem '**Waves**'	selected item highlighted
11.2.9.3	**R**	select from pull down menu **Tools=>CSS Start...**	window 'CSS scope check' comes up
11.2.9.4	**L** **L**	in window 'CSS scope check' select '**MDE**', then click at '**Start CSS**'	'CSS Database Browser' is started, a message window 'Sorry, you are not allowed to edit WAVES. Open inspector instead?' comes up
11.2.9.5	**L**	in message window select '**yes**'	message window is closed, window 'inspect: WAVES' is shown after some seconds.
11.2.9.6	**R**	select '**Quit**' from the OpenWindows standard menu of window 'inspect: WAVES'	window is closed
11.2.9.7	**L**	select '**Quit**' in 'CSS Database Browser'	window is closed
11.2.9.8	**L**	select '**Quit**' in 'CSS Scope Check'	Confirmation window appears
11.2.9.9	**L**	Click at '**YES**'	both windows are closed

11.2.10 Recreate CLS Files

Step No.	Mouse	Action	Result
11.2.10.1	**L**	Navigate to \	
11.2.10.2	**L**	Navigate to **\EURECA*(3)***	path is shown in pathname area, **No CCU selected**
11.2.10.3	**L**	select button '**EURECA**' within the pathname area	text: 'EURECA, Mission: DUMMY_MISSION(3) – selected'
11.2.10.4	**R**	select **File=>Show CCU Versions...**	subwindow 'I_MDB:CCU Versions' appears
11.2.10.5	**L**	in window 'I_MDB:CCU Versions' select CCU Name '**EURECA_DEMO**'	selected item highlighted
11.2.10.6	**L**	in window 'I_MDB:CCU Versions' select version **3.0.1**	selected item highlighted
11.2.10.7	**R**	in window 'I_MDB:CCU Versions' select **Command=>Tools =>Recreate CLS Files...**	I_MDB status line shows: '.../i_code_file_generator started in batch mode' after some time a message window appears: 'I-Code file generation completed'

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Step No.	Mouse	Action	Result
11.2.10.8	**L**	in message window select '**Ok**'	window disappears
11.2.10.9	**L**	close window 'I_MDB:CCU Versions'	window disappears

11.2.11 Generate Scoe Files

Step No.	Mouse	Action	Result
11.2.11.1	**L**	Navigate to **\EURECA(3)CCU: EURECA_DEMO(3.0.1)\EGSE\SUBSYSTEM\ANTENNA\CONFIGURATION**	path is shown in pathname area
11.2.11.2	**L**	Select the enditem '**TEST_CONF**'	selected item highlighted
11.2.11.3	**R**	select from pull down menu **Tools=>Genrate Scoe Files...**	Window with Progression bar starts. Console window shows output of command:
11.2.11.4	**R**	Wait until message 'FINISHED' appears in window 'LoadSCOE' select 'CLOSE' in window 'LoadSCOE'	Window 'LoadSCOE' disappears.

11.2.12 Run down

Step No.	Mouse	Action	Result
11.2.12.1	**R**	from the OpenWindows standard menu of 'I_MDB' select '**Quit**'	window is closed
11.2.12.2	**R**	from the OpenWindows standard menu of 'PNS'–icon select '**Quit**'	icon is closed

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11.3 DADIMA Tool

Login as `Your_CGS_Admin` and open a shell tool. Then start the dadima tool:

```
hostname:Your_CGS_Admin 1: cd $GSAF_HOME/mda/util/dadi/bin<Return>
hostname:Your_CGS_Admin 2: start_dadima<Return>
.
.           ( In the shell tool: )

Enter OWNER NAME of the DADIMA account [DADIMA]     : dadima <Return>
Enter OWNER PASSWORD of the DADIMA account [DADIMA] : dadima_Password <Re-
turn>

DADIMA–Tool started

.           ( The DADIMA main window appears.)
.
Select in DADIMA main window EXIT

DADIMA–Tool stopped
```

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11.4 Checkout

Login as the CGS test user `cgs_1`.

11.4.1 CGSI Task Selector

Open the CGSI Task Selector (double–click with the left mouse button on the icon "Task"). Click with the right mouse button into the button "Select Task".
The list of selectable tasks appears, depending on the entries in the file `.task_list`*, which is located in* `cgs_1`*'s home directory.*

11.4.2 CGS Startup

Step No.	Mouse	Action	Result
CGS Startup			
11.4.2.1	**R**	From 'CGS Task Selector' choose '**CGS System Startup**'	The script checks all CGS processes and starts them if needed (except NTP). Outputs are given to the console window.
11.4.2.2	**R**	From 'CGS Task Selector' choose '**Test System Control**'	'TSCV' window comes up. If TSCV is started the first time, a message window comes up: 'Could not find saved Test Node status ...'
11.4.2.3	**L**	If TSCV is started the first time, select 'Continue' in the message window.	

11.4.3 EURECA Demonstration

Step No.	Mouse	Action	Result
Load the Test Configuration			
11.4.3.1	**R**	in TSCV: select '**Edit->Load for online test...**'	window 'Load test configuration' appears
11.4.3.2	**L**	in 'Load test configuration' click on '**Select CCU...**'	window 'Select CCU'
11.4.3.3	**L**	in 'Select CCU' select '**Element Configurations**'	List is shown
11.4.3.4	**L**	select '**EURECA**'	selection highlighted, next button available
11.4.3.5	**L**	in 'Select CCU' select '**Mission Names**'	List is shown
11.4.3.6	**L**	select '**DUMMY_MISSION**'	selection highlighted, next button available

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Step No.	Mouse	Action	Result
11.4.3.7	**L**	in 'Select CCU' select '**System Tree Versions**'	List is shown
11.4.3.8	**L**	select '**3**'	selection highlighted, next button available
11.4.3.9	**L**	in 'Select CCU' select '**CCU**'	List is shown
11.4.3.10	**L**	select '**EURECA_DEMO**'	selection highlighted, next button available
11.4.3.11	**L**	in 'Select CCU' select '**CCU Versions**'	List is shown
11.4.3.12	**L**	select version '**3.0.1**'	selection highlighted, 'Apply' button available
11.4.3.13	**L**	in 'Select CCU' select button '**Apply**'	window 'Select CCU' disappears, the window 'Load test configuration' shows list of available test configurations
11.4.3.14	**L**	in 'Load test configuration' select the test configuration '\EURECA\EGSE\SUBSYSTEM\ANTENNA\CONFIGURATION\TEST_CONF'	selection highlighted
11.4.3.15	**L**	in 'Load test configuration' click on the button '**Load**'	If there was loaded a test configuration already, a WARNING window appears.
11.4.3.16	**L**	If a WARNING window came up, click on the '**Load**' button	in status line of 'Load test configuration' the message 'Load selected configuration' is shown
11.4.3.17	**L**	select the Push–Pin in window 'Load test configuration'	The window disappears. TSCV shows the loaded configuration in fields 'CCU' and 'Pathname'
11.4.3.18	**R**	select '**Test Session=>Create**'	window 'Create Session' pops up
11.4.3.19	**L**	enter a session name (**CGS_TEST**) and purpose deselect checkbox 'Store on final archive'	
11.4.3.20	**L**	select button '**Apply**'	session is created, window disappears
Start Test System			
11.4.3.21	**R**	in TSCV select '**Configuration'=>'Start**'	Messages about setup process are given State of 'TES_01' changes to 'Executing'
11.4.3.22	**R**	Select '**CLOSE**' from the window main menu	TSCV window is iconized
Start HCI			

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Step No.	Mouse	Action	Result
11.4.3.23	**R**	In the '**CGS Task Selector**' select '**Online Test Control**'	HCI starts with HCI status window, Clock and control panel 'Online Test Control'
Eureca Demonstration			
11.4.3.24	**R**	Select '**Online Test Control'=>'Screen Setup Maintenance...'**	window 'Screen Setup Maintenance' comes up, showing a list of available screen setups
11.4.3.25	**L**	in window 'Screen Setup Maintenance' select screen '**demo**' then click at button '**Load**' and confirm Load in "Load demo screen setup"	selection highlighted different HCI tools are started: – HLCL Commanding – System Advisory – SAS Status – AP Status – Synoptic Display '...\WELCOME'
11.4.3.26	**L**	resize the synoptic Display	
11.4.3.27	**L**	select Push Pin in window 'Screen Setup Maintenance'	window disappears
11.4.3.28	**L**	in synoptic display select green button below 'Simulated Mode' (lower right corner)	synoptic display '...\TREE' comes up and Synoptic Display '...\WELCOME' disappears
11.4.3.29	**L**	in synoptic '...\TREE' select button '**ANT 1**'	synoptic 'TREE' is replaced by synoptic 'MONITOR'
11.4.3.30	**L**	resize the synoptic until all elements are displayed correctly	
11.4.3.31	**L**	in synoptic click at button '**Sequences**'	menu is shown
11.4.3.32	**L** **R**	in synoptic click at button '**Sequences**' in menu select '**DEPLOY_sequence'**	states of synoptic elements are changed – antenna symbol changes – 'ANGULAR POSITION' –> 122 deg – motor current is changed (short time over high limit)
11.4.3.33	**L** **R**	in synoptic click at button '**Sequences**' in menu select '**RETRACT_sequence'**	states of synoptic elements are changed – antenna symbol changes back – 'ANGULAR POSITION' –> 0 deg – motor current is changed (short time over high limit)
Test Print capabilities			
11.4.3.34	**L**	Select '**HLCL command window'**	

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Step No.	Mouse	Action	Result
11.4.3.35	**L**	write in HLCL command window: (replace ***GSAF_HOME*** by your $GSAF_HOME path): print ***"GSAF_HOME***/dbs/user_env/dbs_cshrc"	Print job xx started on LASER_PRINTER1 on printer 1 is printing a textfile with a identification
11.4.3.36	**L**	print ***"GSAF_HOME***/dbs/user_env/dbs_cshrc",LASER_PRINTER1	Print job xx started on LASER_PRINTER1 on printer 1 is printing a textfile with a identification
11.4.3.37	**L**	print ***"GSAF_HOME***/dbs/user_env/dbs_cshrc",LASER_PRINTER2	Print job xx started on LASER_PRINTER2 on printer 2 is printing a textfile with a identification
Stop Test Run			
11.4.3.38	**R**	Select '**Online Test Control'=>'Exit'**	Confirmation window appears
11.4.3.39	**L**	Select '**Exit**'	all HCI windows are removed from the screen
11.4.3.40	**L**	in TSCV choose '**Configuration'=>'Stop'**	Dialog window with Warning message appears
11.4.3.41	**L**	in message window choose '**Apply forced stop'**	Session closed, status of configuration 'idle'
11.4.3.42	**L**	in TSCV choose '**Configuration'=>'Shutdown'**	Dialog window with Warning message appears
11.4.3.43	**L**	select '**Application Shutdown'**	Testnodes state 'No contact'
11.4.3.44	**R**	select '**Quit**' from the title-bar menu of TSCV	TSCV disappears

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11.4.4 Evaluation

Step No.	Mouse	Action	Result
11.4.4.1	**R**	From 'CGS Task Selector' choose '**CGS System Startup**'	The script checks all CGS processes and starts them if needed (except NTP). Outputs are given to the console window.
Start TEV			
11.4.4.2	**R**	From 'CGS Task Selector' choose '**Test Evaluation**'	TEV is started, a window 'TEV: Test Evaluation' comes up. If the default CCU has an other consistency status as 'GLOBAL VALID' a warning message 'MDB Error ...' appears
11.4.4.3	**L**	If a warning message is displayed, press the button 'Acknowledge	The message window disappears

Step No.	Mouse	Action	Result
Select Test Session			
11.4.4.4	**R**	In window 'TEV: Test Evaluation' select '**Sessions=>Execution...**'	window 'TEV: Select Execution Sessions' is displayed
11.4.4.5	**L**	Select button '**Select Execution Session...**'	window 'TEV: Execution Session List' is displayed. The window contains a list of available test sessions
11.4.4.6	**L**	Select the test session '**CGS_TEST**' (session name you used before)	selected items are highlighted
11.4.4.7	**L**	select button '**Accept**'	window 'TEV: Execution Session List' disappears, selected sessions are displayed in the list
11.4.4.8	**L**	select checkbox '**Include Default Execution Session**'	a tick is drawn in the check box
11.4.4.9	**L**	select button '**Accept**'	fields of CCU description are filled, if the CCU is not 'GLOBAL VALID' warning 'MDB error ...' appears (ignore this message)
11.4.4.10	**L**	if a warning appeared then acknowledge the message	message window disappears
11.4.4.11	**L**	iconize window 'TEV: Select Execution Sessions'	window iconized
Event Logging			
11.4.4.12	**R**	In window 'TEV: Test Evaluation' select '**Tools=>Events Logging...**'	window 'TEV: Events Logging(1)' is displayed
11.4.4.13	**L**	select checkbox '**Display Long Text**'	a tick is drawn in the check box
11.4.4.14	**L**	select '**Result=>Exec&Display...**'	After some seconds all events recorded during the test execution session are listed
11.4.4.15	**L**	'**Quit**' the window 'TEV: Events Logging(1)'	window 'TEV: Events Logging(1)' and the events listing disappear
Export to FA device (final archive)			
11.4.4.16	**L**	insert a formated and for export labeled MO disc into MO drive 1	
11.4.4.17	**R**	select '**Sessions=>Export/Import**'	window 'TEV: Export/Import Tool' is opened
11.4.4.18	**L**	select button '**Start FA_SAS**'	FA SAS is started, window 'Final Archive' comes up
11.4.4.19	**L**	in window 'Finale Archive' press the button '**DEVICE 1**'	window 'FA Device Manager #1' appears

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Step No.	Mouse	Action	Result
11.4.4.20	**R**	in window 'FA Device Manager #1' select '**List Contents=>Short**'	window with listing of disc pops up
11.4.4.21	**L**	Quit the listing window	window is closed
11.4.4.22	**L**	in window 'TEV: Export/Import Tool' set the time field '**From**' to one day before	
11.4.4.23	**L**	press button '**List in Time Frame**'	list is updated with execution sessions within the given time frame
11.4.4.24	**L**	select the session created in step 11.4.3.19 (**CGS_TEST**)	item highlighted
11.4.4.25		Enter name which shall be used to export the session in field '**New Session Name**'	
11.4.4.26	**L**	press button '**Export**'	window 'FA Device Manager' shows a progress bar A popup window appears, reporting the end of operation.
11.4.4.27	**L**	Press '**OK**' button in popup	window disappears
11.4.4.28	**R**	Quit window 'FA Device Manager #1'	
11.4.4.29	**R**	Quit window 'TEV: Export/Import Tool'	
11.4.4.30	**R**	Quit window 'FA SAS'	
Quit TEV			
11.4.4.31	**L**	'**Quit**' the window 'TEV: Test Evaluation'	a confirmation window is shown
11.4.4.32	**L**	in confirmation window select '**Quit**'	TEV is stopped

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11.4.5 Shutdown Test System

Step No.	Mouse	Action	Result
CGS Shutdown			
11.4.5.1		Login as the CGS Administrator	OpenWindows environment starts
11.4.5.2	**R**	From 'CGS Task Selector' choose '**CGS System Shutdown**'	The script stops all CGS processes (except NTP) at all CGS hosts. Outputs are given to the console window.

12 DEINSTALLATION PROCEDURE

This chapter describes the deinstallation of CGS. For the full deinstallation of CGS, you have to deinstall the CGS users, the MDB and the entire CGS software. At last you have to reset your UNIX system files.

Login as the CGS Administrator on the CGS server:

```
Login: Your_CGS_Admin <Return>
Password: YourPassword <Return>
.
.           (OpenWindows is started, all windows appear;
.            open a shell or command tool)
.
```

First select the menu item `'CGS Shutdown'` within the 'CGS Task Selector' to terminate the running CGS processes.

12.1 Save Configuration and Data Files

Before starting the deinstallation, you should decide whether you want to keep some configuration data for further use. If you want, you have to call the saveCGSconf script:

```
hostname:Your_CGS_Admin 1: cd $GSAF_HOME
```

Now follow the given instruction in section 9.2.1 (on page 96) up to 9.2.8 (on page 100).

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12.2 Deinstall Users

12.2.1 Deinstall MDB Users

You have to remove all MDB users. Execute the script `deinstall_all_users`:

```
hostname:Your_CGS_Admin 2: cd $GSAF_HOME/mda/config/oracle_env <Return>
hostname:Your_CGS_Admin 3: deinstall_all_users <Return>
```

```
This procedure de-installs all users of a specific MDB.
```

```
 ...
...         (some messages and user input for logging file here)
...
Enter OWNER NAME of the Oracle MDB account [MPS]     : MDB_Owner <Return>
Enter OWNER PASSWORD of the Oracle MDB account [MPS] : Password <Return>

Enter OWNER NAME of the temporary Oracle MDB account [MPS_EXPORT]     :
Temp_MDB_Owner <Return>
Enter OWNER PASSWORD of the temporary Oracle MDB account [MPS_EXPORT] :
Password <Return>

Enter Oracle SYSTEM Password: OracleSystemPassword <Return>
.
.           (lots of messages)
```

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12.2.2 Deinstall CGS Users

You may deinstall each installed CGS user (except `Your_CGS_Admin`). For each user (except `Your_CGS_Admin`) perform the deinstallation as shown in section 10.7 (on page 141).

12.3 Deinstall Databases

12.3.1 Deinstall MDB

To deinstall MDB, you have to execute `deinstall_mdb`:

```
hostname:Your_CGS_Admin 4: cd $GSAF_HOME/mda/config/mdb/install/
admin_scripts <Return>
hostname:Your_CGS_Admin 5: deinstall_mdb <Return>
....
...         (some messages and user input for logging file here)
...
Enter OWNER NAME of the Oracle MDB account [MPS]    : MDB_Owner  <Return>
Enter OWNER PASSWORD of the Oracle MDB account [MPS] : Password  <Return>

Enter OWNER NAME of the temporary Oracle MDB account [MPS_EXPORT]:
Temp_MDB_Owner <Return>
Enter OWNER PASSWORD of the temporary Oracle MDB account [MPS_EXPORT] :
Password  <Return>

Start de-installation.
.
.           ( a lot of deinstallation messages, ca. 20 minutes )
.
The MDB and the temporary MDB are successfully de-installed.
```

Important: If your MDB contains delivered data types (MDB SW delivery) this data types must be saved too. Follow the MDB SW INstallation Manual delivered with this data types, section ”Administration Software”. Copy the created files to the save directory.

12.3.2 Deinstall DADI–MA Tool

To deinstall the DADI–MA Tool, execute the script `drop_dadi` at the Oracle Server:

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```
hostname:Your_CGS_Admin 6: cd $GSAF_HOME/mda/util/dadi/scripts  <Return>
hostname:Your_CGS_Admin 7: drop_dadi  <Return>
...
...    (some messages and user input for logging file name)
...
Enter OWNER NAME of the DADIMA account [DADIMA]:     dadima <Return>
Enter OWNER PASSWORD of the DADIMA account [DADIMA]: Password <Return>
_____________________________________________________________________
Start DADIMA De-Installation.
...
...         (a lot of deinstallation messages)
...
_____________________________________________________________________
DADIMA De-Installation finished.
_____________________________________________________________________
hostname:Your_CGS_Admin 8:
```

After this you can drop the DADI–MA owner within Oracle and the tablespace created for the DADI–MA Tool:

```
hostname:Your_CGS_Admin 9: sqlplus system <Return>
.
Enter password: OracleSystemPassword <Return>
.

SQL> drop user dadima cascade;

SQL> drop tablespace TS_DADI;

SQL> quit
```

Then change your permissions to the Oracle Owner and remove the tablespace file:

```
hostname:Your_CGS_Admin 10: su oracle <Return>
Password: Oracle_Password <Return>

csh : rm Your_Tablespace_Dir/ts_dadi.dbf <Return>
csh : exit <Return>
```

12.3.3 Deinstall SID Range Tool

Deinstall the SID Range database by calling the deinstallation script:

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```
hostname:Your_CGS_Admin 11: su – SID_Administrator <Return>
hostname:SID_Administrator 12: cd $GSAF_HOME/mda/util/sid_range_tool <Re-
turn>
hostname:SID_Administrator 13: deinstall_sid_range_tool <Return>
.
Do you want to perform the deinstallation [n] y <Return>

.           ( some messages )
.
deinstall_sid_range_tool finished

hostname:SID_Administrator 14: exit <Return>
```

Then remove the Oracle and the Unix user `SID_Administrator` by executing section 10.7. Remove `SID_Administrator` as Oracle and as UNIX user.

12.3.4 Deinstall TRDB

Now you have to deinstall the TRDB database:

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```
hostname:Your_CGS_Admin 15: cd $GSAF_HOME/dbs/util/common <Return>
hostname:Your_CGS_Admin 16: deinstall_trdb <Return>
.
.
.
Do you agree to proceed (YES/NO) ? YES <Return>
.
.           (Information about the deinstallation options)
.
You can either execute Step 1, Step 2 or all.

Please enter (1 / 2 / ALL / EXIT ) :  ALL <Return>
.
.
.
Please enter the Oracle SYSTEM password: OracleSystemPassword <Return>
.
Please enter the Oracle SYS password: OracleSysPassword <Return>
.
.           (lots of messages)
.
Now the Unix user has to be switched to the ORACLE DBA ...
Please enter the password for the unix user of ORACLE DBA
(User: YourOracleOwner)
Password: OraclePassword <Return>
.
.           (lots of messages)
.
TRDB deinstallation complete.
```

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12.4 Deinstallation of CGS Clients

Now all client workstations and Force Simulation Nodes could be deinstalled as described in chapter 10.2. All Test Nodes can be removed as shown in 10.5.

Note: In case of a complete deinstallation you do not need to update the SYSTEM_TOPOLOGY_TABLE in the step above.

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12.5 Deinstall GSAF

Now the CGS S/W can be removed. You must be logged in on the CGS server. Use the dedicated deinstall script that deletes each CGS product. First copy the deinstallation configuration file (depend on your installation – see 4.4.2.1.1 on page 49) to avoid its deletion, then change the user permissions to `root`:

```
hostname:Your_CGS_Admin 17: cd <Return>
hostname:Your_CGS_Admin 18: cp $GSAF_HOME/cgs/config/install_gsaf.cfg .
<Return>
hostname:Your_CGS_Admin 19: su  <Return>
Password: RootPassword  <Return>
```

The following description shows only some examples of the dialog. Confirm the product deinstallation with YES. Some products additionally ask you to confirm extra deletion, answer YES or NO as you need:

```
# $GSAF_HOME/cgs/util/common/deinstall_gsaf –config install_gsaf.cfg <Re-
turn>
.
.           ( enter confirmation to deinstall each product)
.
.           ( additional confirmations:)
.
Keep data files in Your_GSAF_HOME/cgs/data and .../config (Y/N)? N <Return>
.
.
Do you want to remove the TEV executables (Y/N) ?  Y <Return>
.
.
deinstall_gsaf: Ready
```

Note: The CSS deinstallation will delete the ADA library used as parent for all model libraries. This deletion will invalidate all these libraries**.** They have to be deleted manually and cannot be recovered by a new CSS installation.

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12.6 Deinstall CGSI

To remove the installed CGSI components, you need `root` permissions. Start the deinstallation script. For each CGSI component it will ask you whether you want to deinstall it. In the following example, a complete CGSI deinstallation will be performed:

```
# $GSAF_HOME/cgsi/util/common/deinstall_cgsi <Return>
This script allows to deinstall (DESTROY) some central components
of the CGS Installation
If the CGS system is going to be used further, a complete backup
of your system should be available

--> Answer carefully to the following questions.

-- Hit RETURN to continue --  <Return>

Enter disk status (server|client) []: server  <Return>

Enter Oracle status (server|client) [server]:  <Return>


Do you want to remove the CGS installed TCL_TK ? [yes]:  <Return>

Where is it installed ? [Your_GSAF_Home/tcltk]:  <Return>

There are still some crontab entries with $GSAF_HOME in their path:
.           ( list of cgs crontab entries )

Do you want to remove them (yes|no)? [yes]:  <Return>

Removing TSS/NTP crontab entries ...    done.

"cgs" seems to be mentioned in some of the files:

.           ( list of existing CGS startup files,
              some explanation )

-- Hit RETURN to continue --  <Return>
```

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```
Do you want to remove "/etc/rc3.d/S61cgs" [no] ? yes  <Return>
--> Removing /etc/rc3.d/S61cgs

.           ( last step is repeated for every found CGS startup script )

Do you want to remove Oracle startup and shutdown from /etc/rc dirs
(yes|no)? [no]:   <Return>

Delete Oracle Tablespaces (Drop and remove files) ? [no]: yes  <Return>
Enter the owner of the Oracle installation [oracle]: Your_Oracle_Owner
<Return>
Enter password for Oracle SYSTEM account: OracleSystemPassword  <Return>
Enter password for Oracle SYS account: OracleSysPassword  <Return>

.           ( messages about dropped tablespaces, TRDB tablespaces may
.             already be deleted by the script deinstall_trdb
.             – ignore errors messages for tablespaces:
.                 ma_space, ma_index_space, onl_space,
.                 event_space, misc_space )



We need to clean the roll_back_segments in the file "initcgs.ora".
You can fix it yourself, probably to something like: "(r01,r02,r03,r04)".
Do you want to revert Oracle using:
--> .../oracle/product/7.3.4/dbs/initcgs.ora.preCGS.4.1 ? [yes]:   <Return>

To remove Oracle, follow the Oracle Installation/De-Installation Manuals !
--> The Oracle system is located in .../oracle/product/7.3.4

Delete DATAVIEWS (remove the DVHOME directory) ? [no]:  <Return>

Remove DBS mount points ? [yes]:   <Return>

  !!   Attention   !!
  !! Final cleanup !!

Removing  the files below $GSAF_HOME will destroy your
CGS installation. ...
.

-- Hit RETURN to continue --   <Return>
```

The script `deinstall_cgsi` will now ask wether subdirectories of the old CGS installation are to be deleted.

```
Do you want to remove any directory below $GSAF_HOME ? [yes]:   <Return>

Remove cgs ? [yes]:   <Return>
  removing cgs ...
.           ( last step repeated for every subdirectory below GSAF_HOME )

 *** /usr2/gsaf/cgsi/util/common/deinstall_cgsi finished. ***
```

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12.7 Reset System Files

At last the Unix system files must be set to their original state.

First disable the export of the CGS filesystems. Then they can be removed from the export list. At next unmount all remote filesystems which shall not be used in future:

```
# unshare exported_path  <Return>
...

# vi /etc/dfs/dfstab <Return>
.
.           ( remove file systems which shall not be exported to the
              network in future
.
.             Save and exit vi )
.
:wq <Return>

# vi /etc/vfstab <Return>
.
.           ( remove all file systems which shall not be mounted in future
.
.            Save and exit vi)
.
:wq <Return>
```

Then you can delete the remaining CGS users `Your_CGS_Admin` and `dbadmin`:

```
# vi Your_NIS_PW_Directory/passwd  <Return>
.
.           ( delete the definition of users Your_CGS_Admin, dbadmin )
.
.             Save and exit vi )
.
:wq <Return>

# vi Your_NIS_PW_Directory/shadow <Return>
.
.           ( delete the definition of users Your_CGS_Admin, dbadmin )
.
.             Save and exit vi )
.
:wq <Return>

            ( remove user home directories )

# cd Your_User_Home <Return>
# rm –rf Your_CGS_Admin dbadmin
```

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If you have deinstalled each CGS UNIX user (as described in chapter 10.7), you may delete the CGS user groups (developer, cm, cgs, cgsi, sde) in the file *NIS_Directory*/group.

```
# vi Your_NIS_Directory/group <Return>
.
.           ( delete the definition of CGS groups:
                 developer, cgs, cgsi, sde, cm )
.
.             Save and exit vi )
.
:wq <Return>
```

If the CGS network is no longer used in the existing configuration the defined CGS netgroup it should be removed:

```
# vi Your_NIS_Directory/netgroup <Return>
.
.           ( delete the definition of the CGS netgroup:
.
.             Save and exit vi )
.
:wq <Return>
```

Then export the changed NIS maps to the network:

```
# cd /var/yp <Return>
# /usr/ccs/bin/make <Return>
```

If the CGSI root dot files has been installed during the CGSI installation (as described in chapter 4.4.2), you shall remove the files /.cshrc, /.login, /.logout. , /.mailrc, /.xinitrc, and /.exrc. For each of these files, CGSI has been created backup copies of the original files (if exist) with the extension .preCGS.4.1, which you may rename to the original file names.

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A ACRONYMS

AD	Applicable Document
arch	architecture
ASCII	American Standard Code for Information Interchange
CCU	Configuration Control Unit
CD–ROM	Compact Disc Read Only Memory
CDU	Configuration Data Unit
CGS	Columbus Ground System
CGSI	CGS Infrastructure
CMAS	Command and Measurement Adaptation System
COL	Columbus
CSS	Columbus Simulation System
cyl	Cylinder
DADIMA	Data Dictionary Manager
DAT	Digital Audio Tape
fd	Floppy Disk
FE	Format Editor
FWDU	Flight Window Definition Utility
GB	Gigabyte
GSAF	Ground Support and Avionics Facility
GUI	Graphical User Interface
HP	Hewlett Packard
hsfs	High Sierra File System
HUP	Hang Up
ID	identifier
I_MDB	Interactive MDB
IP	Internet Protocol
KBD	Keyboard
MA	Manual
MB	Megabyte
MDA	Mission Database Application
MDB	Mission Database
MDE	Model Development Environment

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MOCS	Model Operation and Control System
MPS	Mission Preparation Software
MTS	Multi Threaded Server
NIS	Network Information System
NFS	Network File System
NTP	Network Time Protocol
NWSW	Network Software
PROM	Programmable Read Only Memory
QIC	Quarter Inch Cardridge
RAM	Random Access Memory
rdbms	Relational Database Management System
RIBRE	Raumfahrt Infrastruktur Bremen
rpc	Remote Procedure Call
RTE	Runtime Environment
SAS	Special Application Software
SCOE	System Check Out Environment
SCSI	Small Computer Systems Interface
SDE	Software Development Environment
SID	Short Identifier
SN	Simulation Node
SQL	Sequential Query Language
SunOS	Sun Operating System
TCP	Transport Control Protocol
TES	Test Execution Software
TEV	Test Evaluation
TN	Test Node
TRDB	Test Result Database
TS	Table Space
TSS	Time Synchronisation Software
VICOS	Verification, Installation, and Check–Out System
WAN	Wide Area Network
WD	Working Directory

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B DEFINITIONS

Not applicable

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C CGS INSTALLATION WORK SHEET

Please fill in here necessary data for CGS installation:

*****) do **NOT** write your passwords down here

C.1 Network configuration

C.1.1 Subnet **Mask** (255.255.255.0) :

(Specify how much of the address space is reserved for subdividing the network into sub–networks.)

			.				.				.			

C.1.2 Network **Address** :

(All CGS nodes should be located in the same LAN segment, that means they have the same network address – e.g. 149.243.228.x)

			.				.				.			

C.1.3 Default Router **IP Address** :
Host Name :

(The router connects the CGS LAN segment to other LAN segments. The default router is used by default to send IP packets to other network segments. CGS does not need a default router if all nodes used by CGS are located in the local LAN segment.)

			.				.				.			

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C.1.4 Server

This table contains an overview of services which are recommended or needed by CGS.
All services can be executed by one server or can be distributed over different servers:

Service	Host Name	IP Address	Remark
Mail Server		. . .	
Print Server		. . .	
		. . .	
		. . .	
Boot Server (boot diskless clients front end equipment)		. . .	
		. . .	
NIS Master		. . .	
Oracle Server		. . .	
File Servers (CGS, User directories, ...)		. . .	
		. . .	
		. . .	

C.1.5 Test Nodes, Simulation Nodes

Host Name	IP Address	CGS Services (TES, SAS, CSS, ...)
	. . .	
	. . .	
	. . .	
	. . .	
	. . .	
	. . .	
	. . .	
	. . .	
	. . .	

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C.1.6 Client Workstations

Host Name	**IP Address**	**CGS Services** (HCI, TSCV, TEV, SAS, TES, ...)	**Adapter address** (if diskless client)
	. . .		. . .
	. . .		. . .
	. . .		. . .
	. . .		. . .
	. . .		. . .
	. . .		. . .
	. . .		. . .
	. . .		. . .
	. . .		. . .
	. . .		. . .
	. . .		. . .
	. . .		. . .

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C.2 NIS Configuration

C.2.1 Domainname :

C.2.2 Location of NIS master files

User data
(Your_NIS_PW_Directory) :

Other data
(Your_NIS_Directory) :

(For security reasons the '/etc' files should not be used as NIS master files. The actual location is given by the commands '**grep ^PWDIR /var/yp/Makefile**' for the user database and '**grep ^DIR /var/yp/Makefile**' for all other NIS data files. The recommended location is '/var/etc' for all NIS files. – see chapter 4.1.6 on page 19 for more information)

C.3 Oracle

C.3.1 Oracle Owner

Name (oracle) :
Password* :
Home directory :

C.3.2 Oracle Group

Group (dba) :

C.3.3 Installation Directory

Mount Point :

(The directory used for the Oracle installation. Oracle will append this path with it's own directory structure – e.g. /tools)

C.3.4 Home Directory

ORACLE_HOME =

(The directory containing the Oracle S/W, formed by the Oracle Mount Point extend by 'app/oracle/product/7.3.2' – e.g. /tools/app/oracle/product/7.3.2)

C.3.5 Instance Name

ORACLE_SID =

(This name is used to identify your oracle instance – e.g. 'cgs')

C.3.6 Location of Oracle Documentation :

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C.3.7 Control File Mount Points

First :

Second :

Third :

(Location of Oracle control files. For higher security this files should be distributed over different hard disks – e.g. /tools/data/u01, /tools/data/u02, /tools/data/u03)

C.3.8 Connect Variable TWO_TASK =

C.3.9 Passwords of Oracle administration users

Admin. Server * :
SYSTEM * :
SYS * :
TNS Listener * :

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C.4 CGS Configuration

C.4.1 CGS Automount Map **Map Name** (`autocgs`) :

(NIS map which is used to distribute the automount information of CGS)

C.4.2 CGS Netgroup **Netgroup** (cgs_hosts) :

(It is recommended to define a netgroup, which contains all CGS hosts. This netgroup allows a simple setup of remote access rights within the CGS system – use a name in lower case like e.g.: cgs_hosts)

C.4.3 CGS Directory: GSAF_HOME =

(directory which shall contain your CGS software, e.g. /gsaf)

C.4.4 User Directories USER_HOME :

(directory which shall contain the User Home Directories, e.g. /users)

C.4.5 CGS Administrator

Name (cgsadmin) :
Password * :
Home Directory :

(The user who is the owner of the CGS installation.)

C.4.6 Archiving Directory: **TN_Base** (/testnode) :

(This directory contains the local archiving directory of each Test Node. On the CGS server this directory contains the mount points to all Test Node archiving directories – default: /testnode)

C.4.7 CGS Tablespaces: Location :

(The tablespace files should be located at one or more seperated filesystems/hard disk, you should use the location of the Oracle control files, see C.3.7. The tablespace files must be visible only on the Oracle Server)

C.4.8 SID Administrator

Name (sidadmin) :
Password * :

(CGS user with Oracle access, who creates SID ranges. This user is only needed, if the CGS site is a element contractor site which has to manage SID ranges)

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C.4.9 DADI–MA Owner

Name (DADIMA) **:**
Password * **:**

(The Oracle user who owns the DADI–MA data)

C.4.10 Oracle MDB Owner

Name (MPS) **:**
Password * **:**

temp. MDB Owner

Name (MPS_EXPORT) **:**
Password * **:**

(The owner of the MDB tables is set by the CGS installation scripts to 'MPS' and 'MPS_EXPORT'. Other MDB owner names must be installed manually)

C.4.11 Final Archive Devices

First **:**/dev/dsk/
Second **:**/dev/dsk/

(CGS uses one or two MO drives for final archiving. Specify the device/filesystems of the MO drives here)

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C.5 Comercial Tools

C.5.1 Location of DataViews: DVHOME =

C.5.2 PDF–Documentation Viewer :

(CGS contains the online manuals also in PDF format. Please enter here the location were AcrobatReader shall be installed – e.g. '$GSAF_HOME/acroread')

C.6 Compiler

C.6.1 Ada (HP – Alsys): ADA_PATH =

License_File =

(This compiler is needed to compile your SAS 's for HP–UX)

C.6.2 Ada (Solaris): ADA_PATH =

License_File =

(This compiler is needed to compile CSS simulation models on a Solaris Simulation Node and is needed to compile the CGS–API for Solaris too.)

*) do **NOT** write your passwords down here

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